

**Fiscal Year 2013 Office of the Under Secretary of Defense Environmental Awards  
Environmental Quality – Installation  
Defense Logistics Agency  
Defense Supply Center Richmond**

**Introduction:**

The Defense Supply Center Richmond, located in Chesterfield, County, Virginia, has been a consistent, dependable supplier of quality goods and services to those defending freedom around the world since it was activated in 1942.

Designated as the aviation demand and supply chain manager within the Defense Logistics Agency (DLA), Defense Supply Center Richmond serves within the Department of Defense (DoD) supply chain as the primary source of supply for nearly 1 million repair parts and operating supply items. More than 444,000 of the items managed are aviation parts, including spares for engines on fighters, bombers, cargo aircraft and helicopters; airframe and landing gear parts; flight safety equipment; and propeller systems. Defense Supply Center Richmond's core mission is to supply products with a direct application to the world of DoD aviation. These items support over 1,300 major weapons systems utilized throughout the DoD.

With slightly over 600 acres and approximately 120 warehousing, utility, and administrative buildings totaling over 6.7 million square feet, the Defense Supply Center Richmond is host for a number of other DoD, Federal and state organizations. The three largest of these tenants are the 350-acre DLA Distribution Richmond, DLA Distribution Mapping, and the Virginia Army National Guard Vehicle Maintenance Shop.

Defense Supply Center Richmond and its tenant activities employ nearly 3,000 civilians, service members, and contractor personnel, whose mission is to provide critical material support across the DoD and to other Federal agencies.

**Background:**

In November 2005, the Environmental Management System (EMS) created and managed on the installation by DLA Installation Support at Richmond was externally registered to the requirements of ISO 14001. In 2007, and again in 2010 and 2012, this system and the employees that maintain it successfully passed the external re-registration audit. In February 2006, our EMS was accepted into the Environmental Protection Agency's former Performance Track Program. Although this achievement and recognition program is now abolished, our EMS was the sole DoD representative in this program.



After the implementation of our EMS, we quickly began using the formal structure of the management system and its innovative and effective strategies and tools to pursue environmental improvements on the Defense Supply Center Richmond.

## **Accomplishments:**

From the continually reviewed aspects and impacts list within our EMS, and in conjunction with our EMS Environmental Policy Statement, we identified and developed our 2011 - 2012 objectives and targets. We placed particular attention to addressing the various environmental challenges and sustainable practices detailed in Executive Orders 13423 (Strengthening Federal Environmental, Energy, and Transportation Management, January 26, 2007) and 13514 (Federal Leadership in Environmental, Energy, and Economic Performance, October 5, 2009). Specifically, we utilized our EMS to obtain the following benefits for our installation within the past two fiscal years:

**Storm Water Management:** DLA Installation Support at Richmond researched, developed, and solicited an annual contract with Valley Proteins for the installation of an interior waste grease tank within our cafeteria facility. This tank with its extraction system removes waste grease from numerous cooking fryers utilizing a suction wand. The tank then stores the waste grease until its removal by a vacuum truck through an exterior piping apparatus with built-in spill containment. This process has eliminated the need to store grease outside while awaiting disposal. It has also minimized the risk of spilled grease entering the sanitary and/or storm sewer systems. As an added bonus, the waste grease collected and paid for by the vendor is recycled into biofuels rather than being treated in a publically owned and costly treatment facility. During this achievement period, 1,668 gallons of waste grease was generated and recycled. This volume was sold for \$0.225 per gallon for a total income of \$375.30. Prior to this recycling, the previous method utilized included the pumping of the grease traps and the disposal of the collected product. At that time, this process cost the installation more than \$5,640 for the achievement period.



**Recycling of Construction Debris:** During this achievement period, the Defense Supply Center Richmond demolished several large, outdated, and un-needed storage warehouses. This action generated more than 120,914 tons of construction waste. From this amount, 105,244 tons (87%) was recycled, eliminating the need for disposal via a landfill. Material recycled included concrete and brick that was crushed and reused on the installation for other projects, wood, steel and other metals. Using an average cost for disposal of \$25.58 per ton, our construction debris recycling efforts resulted in a cost avoidance of \$2,692,141 in landfill fees.



**Green Purchasing Initiatives:** During this achievement period, DLA Installation Support at Richmond teamed with DLA Contract Support at Richmond to ensure that 100 percent of contracts awarded contained the necessary Green Procurement clauses and statements. To support this initiative, we hosted two on-site “Buying Green” classes for the employees of the installation. These classes highlighted the benefits of buying environmentally friendly products as well as explaining the applicable governing regulations. Special attention was given to tailoring the information within the classes to the mission requirements of the installation and DLA. These buying green initiatives clearly



improved the Green Procurement Program of the installation. Specifically, the installation's hazardous material pharmacy, which has the responsibility for the procurement and management of environmental material used on the installation, increased its purchase and use of environmentally friendly products by 15%.

**Hazardous Material Recycling:** Over this achievement period, contaminated petroleum products that are turned in for disposal have been collected and poured into the 2,500 - gallon used oil tank. Accepted petroleum products included motor oil, automatic transmission oil, power steering fluid, diesel fuel, gear oil, turbine engine oil, hydraulic oil and fuel oil. Through extensive market research and initiative, a contractor was found who would remove the contaminated oil at no cost to the installation. The contractor then cleans, refines and recycles the used oil. During this rating period, 3,992 gallons of petroleum products were collected and ultimately recycled through this process. If this volume of petroleum products had been disposed of as nonhazardous waste, the cost would have been \$0.55 per pound. It is estimated that the weight of the recycled petroleum products was 31,736 pounds, thus resulting in a cost avoidance of \$17,454.80.



**Savings Through Energy Efficiency:** During the past two fiscal years, overall energy usage on the Defense Supply Center Richmond has been reduced by 6 percent each year. This reduction exceeded Executive Order 13423's requirement to reduce energy by 3 percent each year for a 5 year period. These energy savings were accomplished through various initiatives. In February 2012, a thermal solar water heating system was installed on the roof above the installation's fitness center.



These solar collectors effectively heat the more than 800 gallons a day of hot water used by the fitness center. These solar collectors have already generated a return on investment in the amount of \$1,500. A few months earlier, a 12 kilowatt photovoltaic array was installed on an administrative building to offset electric costs. This project resulted in a \$1,200 per year cost savings. In addition, six ground source heat pumps were installed in four different buildings on the installation. These pumps use half the energy of an air source heat pump and subsequently generate a savings of approximately \$17,500 per year in electric costs. Lastly, to effectively monitor and manage energy usage across the installation, a computerized multi-media energy management control system was installed. This system not only captures current energy usage per structure, it also captures and stores historical data which is used to capture additional opportunities for energy cost savings. By using this system, the Defense Supply Center Richmond is able to prove that over the past two years, our energy consumption is down 11 percent; our natural gas consumption is down 16 percent and our fuel oil consumption is down 16.1 percent.



**Environmental Education and Outreach:** The installation is home to a herd of 17 Rocky Mountain Elk. These animals have been cared for on the Defense Supply Center Richmond since the land was purchased by the government in 1941. During this achievement period, efforts were made to better inform our employees as to the description of the elk, their habitat, and the history of their relationship with the installation. This was done through mass e-mails sent to each employee, as well as through the use of various electronic internet

postings. In addition, during this achievement period, DLA Installation Support at Richmond successfully held two environmental fairs on the installation coinciding with Earth Day. These fairs were effective ways to bring environmental awareness to school-age children and installation employees. Vendors and other government agencies displayed various educational, environmental initiatives such as reducing air emissions, increasing green procurement, utilizing alternative vehicles, general recycling, the Bellwood elk, and energy and water savings. The overall goal of the environmental fair was to educate and inform all attendees about the importance of being good stewards of the environment, especially while on the installation and at home.

**The Positive Effects of Wildlife Habitat Restoration:** Even though the Defense Supply Center Richmond is just slightly over 600 acres in size, every effort was made to enhance the suitability of our habitat for use by local wildlife. During this past year, five acres of land previously used as a laydown area for contractor material, was revitalized into a thriving wildlife habitat through the creative landscaping and planting of more than 1,500 native grasses, shrubs, and trees.

Additionally, during this same time period, more than 450 trees were planted throughout the installation to attract additional wildlife, while at the same time beautifying the installation for the enjoyment of its employees and visitors. Many of the installation's employees are active amateur ornithologists and routinely keep track of our growing numbers of resident and migratory birds. In 2012, nearly 100 different bird species were observed and recorded. Nine different species of mammals were also observed. To facilitate the growth of the installation's resident bird population, numerous bird houses for Purple Martins and Blue Birds as well as Kestrel nesting perches were installed.



**Stakeholder Involvement:** The need for continuous improvement has taken DLA Installation Support at Richmond's EMS process and framework one step beyond traditional implementation, reaching out to capture the environmental influence of a true community of participants. The frequent update of the EMS's aspects, impacts, objectives, and targets yearly requires effective communication with not only all tenants on the installation, but also the community just outside of our fence-line. Such an innovative and aggressive approach to involving all of our environmental stakeholders has supported the building and alignment of successful collaborative problem-solving throughout the installation and into our neighboring communities. This form of effective teaming has helped contribute to the EMS's significant accomplishments within the goals of Executive Orders 13423 and 13514. The continual re-certification of the EMS over an eight year timeframe validates the results of efficient and effective communication and stakeholder involvement.

## **Judging Criteria:**

**Program Management:** The installation showed tremendous improvement by utilizing our EMS strategies and tools to pursue environmental improvements. Implementing new sustainable practices and continual improvement of sustainable practices already in place has allowed us to obtain improved benefits for our installation. These practices replaced old and outdated standard operating procedures, which had been ineffective toward the stewardship and management of the installation's natural resources. As an example, by implementing these new sustainable practices, the Defense Supply Center Richmond was able to improve the success of its green procurement program through employee awareness and training. This in turn resulted in more environmentally friendly products being purchased and used on the installation. The improvement in the recycling of construction debris saved landfill space and disposal cost while creating recycled products that were capable of being use in other projects. The implementation of new energy saving initiatives such as solar hot water collectors, geo-thermal heat pumps, and high efficiency lighting, allowed the installation to continue to reduce both its energy demand and energy costs. The use of a grease tank to capture and recycle cooking grease helped minimize the risk of spills and subsequent contamination of the sanitary or storm sewer system. The minimization of hazardous waste through the collection and recycling of used petroleum products saved money through the avoidance of disposal costs. And, continual improvements in the areas of education outreach and wildlife habitat restoration has benefited not only the installation, but also our employees, and our neighbors. The pursuit and implementation of sustainable environmentally friendly practices is an integral part of the Defense Supply Center Richmond's ISO 14001 registered EMS. These practices allow us to efficiently reduce our impact upon the environment and to identify and effectively track program improvements and associated milestones.

**Technical Merit:** Defense Supply Center Richmond successfully implemented cost effective and innovative waste, water, and energy reduction techniques. All of these helped improve the environment and allowed the installation to focus on meeting the needs of the warfighter. This will continue well into the future. Also, our successful efforts with our Green Procurement Program will have a lasting effect upon the environment, as it promotes the efficient and sustainable use of recycled/recyclable products by all installation personnel. These environmental improvement initiatives also effectively addressed environmental aspects considered significant by our EMS and the various environmental challenges and performance goals detailed in Executive Orders 13423 and 13514.

**Orientation to Mission:** The effectiveness of the initiatives being implemented during FY 2011 - 2012 has resulted in several thousands of dollars in waste, water, and energy reduction monetary savings. These initiatives are in continual full compliance with all applicable Commonwealth of Virginia and Federal environmental regulations. Also, these monetary savings are generated across the entire workings of the installation. These savings not only reduced the financial impact but also allowed the employees of the Defense Supply Center Richmond to focus on effectively meeting their mission of supporting the needs of the warfighter.

**Transferability:** The simplicity of these effective waste, water, and energy savings, and the ease of their sustainment, facilitates their continued use long into the future. This includes the effectiveness of our Green Procurement Program. The broadness of the remedies implemented on the Defense Supply Center Richmond also allows for their adoption by other DoD facilities.



The Defense Supply Center Richmond utilizes the stakeholder outreach capabilities of its EMS's external partnership known as the Virginia Regional Environmental Management System (V-REMS) as a means for promoting and potentially transferring these innovations to others outside of this installation. This one of a kind partnership, which is chaired by the installation, is comprised of more than eighty-five public and private organizations that routinely communicate and meet to address the environmental needs of its members and of the Commonwealth of Virginia. All DoD facilities within the Commonwealth are members of this partnership. Defense Supply Center Richmond routinely updates this two-way partnership regarding the development, success, and potential transferability of our waste, energy, and water reduction initiatives.

**Stakeholder Interaction:** In addition to V-REMS, the Defense Supply Center Richmond utilizes its internal EMS Working Group to educate, solicit, consider, and act upon the sustainability concerns of its stakeholders. While V-REMS focuses on the installation's external stakeholders, such as the community, state and local regulators and non-governmental organizations, the EMS Working Group, which meets at least quarterly, focuses on the sustainability needs and concerns of those activities on the installation. The combination of both groups allows for effective stakeholder interaction regarding the environmental initiatives of our EMS.

**Project Impact:**

The true benefit of our EMS is that it is a management system that over the years has become engrained into the way we do business on a daily basis. All of our employees have assumed their responsibility for the system's ownership, its operation, and its continuation into the future. This environmental culture is something that we as an organization have become quite proud of and will surely maintain. Also, our EMS has been registered to the environmental management standards of ISO 14001 since 2005. With this registration comes the stipulation that this system will be externally audited every six months. Contingent to our organization passing these audits, has been our ability to demonstrate that we have consistently pursued, implemented, and maintained initiatives intended to control and minimize our impacts upon the environment. As such, our EMS and its internal controls, will ensure that our current accomplishments will not only extend well beyond this achievement period, but we will continually develop and implement new ones to take their place,