Narrative

Defense Supply Center Richmond (DSCR), located along the I-95 corridor in southern 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 lead center for aviation supply and demand chain management within the Defense Logistics Agency, the center serves within the Department of Defense (DoD) supply chain as the primary source of supply for the nearly 850,000 repair parts and operating supply items. These items support over 1,300 major weapons systems utilized throughout the DoD.

With over 600 acres and approximately 120 warehousing, utility and administrative buildings totaling over 6.7 million square feet, DSCR is host for a number of other DoD, federal and state organizations. Combined, they employ nearly 3,000 civilians, service members and contractor personnel whose mission is to provide critical material support across DoD and other federal agencies.

Background

Executive Order #13148 required that appropriate federal facilities have an Environmental Management System (EMS) in place by December 2005. DSCR not only met that requirement well in advance of this deadline, but in November 2005 DSCR's system was successfully registered to the requirements of the international ISO 14001 standard.

In building this EMS, DSCR proved that good relationships with neighboring communities and stakeholders are essential for the long-term viability of the Center's mission. The rationale is simple: if we do not understand the environmental priorities of our host communities and other stakeholders, we can not plan and/or execute mission activities to complement and/or address them.

Like so many other DoD facilities, DSCR is located in an area where the local government support structures can not always adequately comprehend, appreciate, and/or meet the high resource and mission demands of the Center. Multiple and varying priorities, as well as communication challenges, were becoming a potential source of contention between DSCR, its communities, and its local government.

One of the most positive benefits of DSCR's EMS has been the productive relationship between the Center and our stakeholders. Through hands-on involvement in the EMS process, participants have achieved a mutual increased level of confidence relating to overall management, compliance with regulatory drivers and enhanced mission performance.

DSCR not only complied with the Executive Order, and obtained ISO 14001 certification, but has also actively solicited, considered and integrated the concerns of tenants and stakeholders in building the successful EMS. DSCR

has taken its EMS beyond the fenceline of the installation. This DSCR-led partnership became known as the Virginia Regional Environmental Management System (V-REMS). Initially, stakeholders included the City of Richmond, Virginia; Chesterfield County, Virginia (DSCR's host county); and Virginia's Department of Environmental Quality. Through proven success and word of mouth, this effective partnership has voluntarily grown to include new memberships of Fort Lee; Fort A.P. Hill; Virginia Army National Guard; Marine Base Quantico; City of Hopewell, Virginia; City of Portsmouth, Virginia; Henrico County, Virginia; the Greater Richmond Planning Commission; the Crater Regional Planning Commission; Port of Richmond; Honeywell; Tyson Foods, Incorporated; Ukrop's Super Markets; and DuPont. More members are expected in the future.

EMS Program Summary

V-REMS is an innovative and unique program designed to coordinate environmental assessments and subsequent management programs conducted by federal facilities, local governments, private organizations and their corresponding state environmental regulatory agency. The first and only program of its kind in the nation, V-REMS joins all levels of government and the private sector to participate in coordinated activities to voluntarily address individual, group and regional environmental and mission performance. Through the partnership, program members have identified and successfully managed their individual and joint environmental responsibilities and work together to prevent new environmental and/or security risks. By sharing EMS best business practices and lessons learned throughout the program, all participants voluntarily strengthen working relationships and encourage beneficial interaction.

Drivers

The following joint and focused processes were used to identify the individual and joint drivers and measures of success behind this initiative:

- Compliance with Executive Order 13138 and with the establishment of the various required pieces of an EMS
- Improved relationships with neighbors and surrounding communities
- Having city, county, state, federal agencies and private firms recognized as environmental leaders and innovators
- Going beyond compliance assurance with applicable regulations
- Organizational factors (i.e., better mission efficiency, employee morale, and reduced costs)
- Ability to leverage resources, opportunities, and solutions
- Ability to build consensus to provide consistent approaches and solutions to individual and joint environmental challenges

EMS Accomplishments

All of the above have proven to be successful on a partnership and regional perspective. In addition, the sharing of information and best business practices among the partners has resulted in the following measurable mission benefits and accomplishments.

EMS Implementation – DSCR became the first ever DLA activity to become externally registered to the requirements of ISO 14001. This unbiased verification ensures that all the pieces of our EMS are in place, are operational, and are effective. In an attempt to further contribute to the mission performance of DSCR, the Center was also the first DLA activity to join EPA's Performance Track Program.

Pollution Prevention and Waste Reduction –

Air Emissions –

Through boiler retrofit and enhancement during this reporting period, and the use of a cleaner burning fuel, DSCR was able to reduce heating boilers sulfur emissions from 100 tons to 7 tons This reduction also greatly simplified the Center's permitting requirements, saving mission funds.

During this reporting period, DSCR purchased high-volume, low-pressure (HVLP) spray-paint guns for each paint booth location. HVLP spray guns deliver paint at about 10 psi or less, which causes far less paint to be lost in overspray as well as increased transfer efficiencies of up to 90 percent. The increased paint transfer efficiency resulted in a reduced overall paint usage as well as reduced paint overspray, thereby minimizing the amount of paint related waste (air emissions, filters, rags and paper) produced and costs necessary for disposal.

By switching to water-based coating paint during the same time period, DSCR significantly reduced the release of Volatile Organic Compounds (VOCs) and Hazardous Air Pollutants (HAPs) to the atmosphere.

Solid Waste Recycling - In 2004 and 2005, DSCR continued to successfully implement a Qualified Recycling Program (QRP) that collects white office paper, mixed paper, laser toner cartridges, cardboard, plastics and scrap metal for recycling. Participation in the recycling program is high with an estimated 88 percent of white paper and 73 percent of cardboard generated at DSCR being recycled. The solid waste diversion rate for FY 04 was 45 percent (up from 42 percent in FY 03) with a total of 1,825 tons of materials recycled. The total revenue generated from the QRP during FY 04 was approximately $48,200.

The total cost avoidance for FY 04, which includes money saved on solid waste disposal costs and recycling revenue, was approximately $360,000.

Fluorescent Lamp Recycling - Approximately 7,200 fluorescent bulbs are in use at DSCR. Approximately 1,800 of those bulbs are recycled in conformance with all environmental regulations on a yearly maintenance cycle. Ultimately, all bulbs utilized will be recycled thereby minimizing disposal liabilities.

Automatic Stormwater Sampling - DSCR voluntarily installed 12 automatic and continual stormwater samplers, each located at a particular outfall. These monitors collect samples within 30 minutes of the onset of a significant storm event, allowing for extremely timely and accurate samples. The samplers also eliminate the need for field technicians to scurry from outfall to outfall. These monitors allow us to consistently sample the same locations in the same manner across multiple events with less opportunity for field error. More accurate and timely samples will in turn allow DSCR to react more expeditiously if needed.

Water Quality - DSCR established contracts for sampling and determining concentrations of nutrients such as nitrogen, phosphorus and potassium. Of particular concern are the chemicals which could drain from the installation to nearby receiving streams and eventually into the Chesapeake Bay. DSCR is utilizing a portion of these results in our nutrient management plan, which recommends the amount of fertilizer application for horticultural endeavors such as lawns and flowerbeds. It also provides a strategy for dealing with problem areas such as animal wastes, including the Center's on-site elk herd.

Through the EMS, implementation of best management practices have already reduced nutrient run off to a point that little to no further reduction is necessary to meet the terms of the DoD Chesapeake Bay Agreement, thereby saving mission funds.

Replacement of Single Walled Underground Storage Tanks - DSCR has an ongoing non-regulatory mandated initiative to replace many of the twenty-five large underground single-walled storage tanks with above ground double-walled tanks. These tanks are used to store various heating and vehicular fuels. During this reporting period, six underground tanks were removed and were either replaced with double-walled, above ground tanks or were re-engineered and determined to be no longer needed. The construction and use of double-walled, above ground tanks provides us with not only a reliable secondary containment system, but makes leaks or structural challenges clearly visible. The use of above ground tanks in lieu of below ground tanks also removes RCRA regulatory requirements. Additional tanks will be removed or replaced in upcoming months.

Wildlife Habitat Enhancement - Vegetative buffer zones and bio-retention gardens were constructed and maintained to help filter storm water flow prior to entering receiving streams and storm water drains. Vegetation growing on stream banks is being trimmed rather than cut down to help keep stream banks from eroding. In addition, numerous butterfly gardens and native species birdhouses were placed throughout the Center. Based on these particular management initiatives, in late 2004, DSCR was selected as one of only a few DoD sites to become a member of the Wildlife Habitat Council.

Electric Vehicles - Throughout 2004 and 2005, DSCR expanded its purchase and use of electric vehicles with three additional all-electric scooters and two gas/electric hybrid cars. The scooters will be used on Center, while the hybrid cars will be used both on Center and for longer distance trips. The use of electrically powered vehicles and eliminating a number of gas-powered vehicles, which causes pollution, is a key benefit in the installation's EMS.

Hazardous Material Pharmacy - DSCR recently implemented a Hazardous Material Pharmacy. The intent is twofold. First, promote the use of environmentally friendly products for use on Center. Second, serve as a means of controlling the use and subsequent waste of these environmental products by issuing quantities on an as needed basis. Products not completely used are brought back to the pharmacy for reuse or disposal. This cradle-to-grave management reduces the over supply and misuse of hazardous material, thus reducing or even eliminating waste and saving mission funds.

Closed Loop Carwash – The recently constructed closed-loop government vehicle carwash continues its elimination of the discharge of wash waters and associated contaminants to the sanitary or storm sewer systems. Contaminants are removed and collected separately, for later disposal, from the wash water, which is re-used at the beginning of the wash cycle. During this period, the use of a closed-loop wash water recycle system has reduced water consumption by 80 percent. There is no sewer connection and hence no need for a National Pollutant Discharge Elimination System (NPDES) permit. In late 2004, DSCR switched to a non-hazardous biodegradable soap to be used in the car wash, further enhancing pollution reduction efforts.

Environmental Compliance Assessment and Management -

The maintenance of DSCR's EMS registration to ISO 14001 ensures that various assessments will be continual. This includes a yearly cycle of internal audits for all portions of the EMS, as well as external surveillance visits every six months. Periodically, and in coordination with the EMS, DSCR evaluates compliance with relevant environmental legislation, regulations and other requirements to which we subscribe. These reviews and evaluations are conducted to ensure compliance at each relevant level. Internal compliance self-assessments are conducted at least annually. These may be performed by an external contractor using guidance provided by DSCR. External compliance self-assessments are conducted by higher command at least once every three years. Federal, Commonwealth of Virginia, and/or Chesterfield County Virginia environmental regulatory agencies may conduct audits of environmental programs at DSCR relevant to their jurisdiction. Through the EMS, prompt action is always taken to correct any noted deficiencies, ensure the effectiveness of the solution, and prevent any reoccurrence.

Overall Summary

The above information clearly demonstrates the mission level benefits to DSCR resulting from its community based EMS. This system has proven effective in protecting, restoring, and enhancing the environment at DSCR and throughout its unique external community partnership. Initial focus was directed to the reduction of significant sources of emissions, while continually attempting to support and strengthen the overall mission of the Center. The further maturation of this system will allow DSCR to not only effectively manage its current mission environmental impacts, but those of the future, along with those of its community.

DSCR considers the input of all offices and residents on the Center, including tenant organizations, in its EMS. The concerns and input of our external stakeholders are also identified and addressed. A comprehensive plan has been prepared, milestones set and progress tracked, including costs, savings and mission benefits. In addition, the EMS has put into place conduits allowing for the dissemination of relevant information to employees, Center residents and external stakeholders, including the development and availability of necessary education, outreach and EMS awareness programs.

The foundation of the DSCR EMS is solid and is continually being strengthened. Its benefits will be ongoing. This system, lesson learned and community-based partnerships like DSCR's, can easily be adopted by other DoD and federal activities. DSCR staff have participated in numerous presentations on this system to various DoD, federal, state and private organizations during this reporting period. In addition, several written publications have been prepared.