

ANNUAL REPORT

FY2008



A SUSTAINABLE APPROACH TO ACHIEVE MEASUREABLE ENVIRONMENTAL, ECONOMIC, AND COMMUNITY-BASED IMPROVEMENTS AMONG THE PARTNERSHIP

The Virginia Regional Environmental Management Systems (V-REMS) Partnership



V-REMS partners participating at a quarterly meeting at Fort A.P. Hill stand in front of a long-distance shooting range as part of a tour of the Fort's green facilities and structures. The tour showcased environmental priorities as a significant part of the military mission.

V-REMS Outreach Materials

http://www.vrems.org/Informational_Materials.cfm

V-REMS Benefits Flyer ~ Year 1 Final Report ~ FY06 Annual Report ~ FY07 Annual Report ~ CFL Recycling Pilot Program ~ Diesel School Bus Retrofit Project ~ DSCR Partner Profile ~ E-85 Fueling Stations Project ~ Electronics Waste Reduction Efforts ~ Energy Efficiency Initiatives ~ Energy Subgroup Activities ~ Fort A.P. Hill Partner Profile ~ Helping Sustain the Mission ~ Land Conservation Activities ~ Stormwater Management Activities ~ TiO₂ Concrete Workgroup Project

V - REMS

OVERVIEW The Virginia Regional Environmental Management System (V-REMS) partnership joins over 65 federal, state, and local public and private organizations that collaborate to address community and environmental issues. V-REMS takes a sustainability approach to achieve measurable environmental, economic, and community-based improvements. Based on its success, V-REMS has received national recognition.

- V-REMS was originally sponsored by the Department of Defense and the White House Council on Environmental Quality (CEQ) in 2003 as a pilot program to develop an EMS-based regional approach to environmental and community sustainability challenges.
- The V-REMS success has led to continuing support by the Defense Supply Center Richmond (DSCR).
- The ever-growing partner base has given V-REMS the ability to take on more diverse projects that promise both global and local impact.



Partners were greeted by this sign on their way to May's Quarterly Meeting at DSCR.

AWARDS AND RECOGNITION

V-REMS partners are continually recognized for their environmental innovations. The technologies and activities recognized by these accolades are shared among partners, contributing to a stronger, more effective community effort to improve the Commonwealth's collective environmental impact. As a result of partners' significant contributions, the partnership achieved its sustainability goals this year. These awards are just one measure of the partnership's success in 2008.



- In 2007, the V-REMS partnership was recognized as **Businesses for the Bay Partner of the Year** for its pollution prevention successes and commitment to the Chesapeake Bay.
- Six partners received **DoD/EPA/States Region III 2007 Environmental Colloquium Awards**, including the V-REMS partnership itself, which won an **Innovation Award for EMS**. The partnership demonstrated excellence in the development, management, and transferability of environmental projects that increased environmental quality, enhanced the mission, and helped make the military sustainable.
- Eight partners earned **2008 Governor's Environmental Excellence Awards**, with V-REMS receiving a **Gold Medal for Environmental Projects in the Partnerships category** for its environmental impact, management, and protection; community outreach and involvement; and record of compliance with environmental regulations.

OVERHEARD BY V-REMS PARTNERS

"The contributions of all V-REMS partners are directly responsible for the measureable success the partnership has achieved in its fifth year."

-Jimmy Parrish, DSCR

"V-REMS has proved instrumental in helping us foster relationships that have led to real environmental progress."

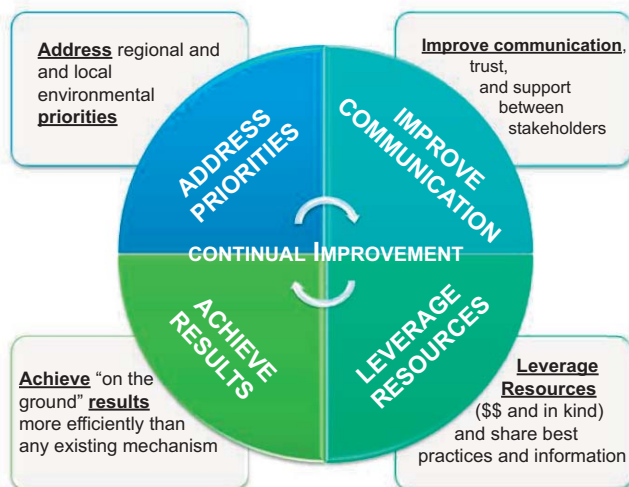
-Steve Walz, Energy Advisor, Office of the Governor

"V-REMS partners have expertise at trying to solve community problems, promote good will, and influence their operations from the supply chain to the end customer through a ripple effect."

-Marie Holman, EPA Region III

"Being part of the V-REMS partnership has made it easy for us to make our company greener and more efficient."

-Chuck Barnes, Hopewell Cogeneration



AN EVER-GROWING PARTNERSHIP

V-REMS was pleased to welcome American Water, Covanta Energy, Luck Stone, MaxLite, Old Dominion University, Southeastern Public Service Authority, James River Reserve Fleet, and the Office of the Governor to the partnership this year.

V - REMS

COMMUNICATION underpins the foundation of the V-REMS partnership. Partners connect, whether through monthly calls, partner-to-partner communications, or partner-hosted meetings, to share information and ideas on how to support business operations while focusing on sustainability and pollution prevention and maintaining regulatory compliance. Meeting and call notes complete with action items identify key priorities, new workgroup prospects, and other collaborative opportunities.

THE V-REMS WAY

- **Working with EPA Region III and VA Department of Environmental Quality (VA DEQ):** Input from EPA regional and state regulators guides partnership activities to assure that they align with regional environmental priorities to guarantee the greatest positive impact.
- **Training Workshops:** Conferences such as the United States Army Corps of Engineers' (USACE) Leadership in Energy and Environmental Design (LEED) Implementation Workshop and the Virginia Clean Cities' Natural Gas Vehicle Seminar gave V-REMS partners the information necessary to take advantage of existing technologies, making their activities more sustainable as they plan for the future. Guided by the V-REMS way, partners are willing to share this information with organizations interested in taking a more sustainable approach to their operations.



Arba Williamson (US Army) and Al Christopher (VA Clean Cities) discuss the use of biofuels on Army installations.



Blase Keegel (Philip Morris) and Will Bullard (US Navy) share information about implementing riparian forest buffers and constructed wetlands.

WEBSITE NEWS

- The Energy Outreach and Education Clearinghouse on the V-REMS website was a major focus at meetings this year. Partners pooled resources to customize the tool, each offering invaluable suggestions about what information would be most important for users.
- The Clearinghouse was created because partners felt a need to have one central location to find important technology and policy information. The new website feature goes one step beyond traditional archives: partners crafted an interactive question and answer forum where individuals can submit questions and other partners will provide data on the subject or will give the contact information of someone who can.

http://www.vrems.org/Energy_Outreach_Education.cfm

PARTNER INTERACTIONS LEAD TO MEANINGFUL OUTCOMES

- Collaboration between V-REMS partners Steve Walz (Office of the Governor) and Julie Rosenberg (EPA HQ) at the September 25, 2007 meeting led to Virginia's incorporation into the Clean Energy State Partnership Program.
- The V-REMS partnership founded a relationship between Hopewell Cogeneration, the EPA, and VA DEQ who are now working together to obtain air permits that will allow testing biodiesel fuel in boilers.
- Discovering common environmental concerns through their interactions at V-REMS meetings, the U.S. Navy and Philip Morris began to discuss riparian buffers, which can improve the water quality of lakes, streams, and rivers.
- At the May quarterly meeting, USACE elaborated on their green building policies and procedures, guiding V-REMS partners as they initiate their own green building practices on military bases.

V - REMS

ACTIVITIES AND ACCOMPLISHMENTS

For V-REMS, partner communication leads to action and results in meaningful outcomes. FY2008 proved no different for the partnership as individual and collective efforts once again resulted in a wide range of environmental successes. This is, in large part, thanks to the involvement of many diverse partnering organizations and the hard work of committed individuals willing to champion these efforts. The following showcases a variety of workgroup initiatives and project-focused efforts.

"The strength of the V-REMS partnership was evident through the TiO₂ Concrete Workgroup. Partners in the private, military, and government sectors gathered resources, collaborated on the test plan, and persevered through roadblocks to make the workgroup a successful V-REMS effort."

Laura Rodman, US Army

ENVIRONMENTAL EFFORTS

★ **TiO₂ Concrete Workgroup:** This workgroup, formed to test the efficacy of pollution absorbing concrete, was an exemplary model of what the V-REMS partnership represents. Partners joined forces to research and begin a pilot project studying titanium dioxide concrete's pollution absorbing capabilities. The cooperation and effort of the entire partnership made this project a success. Fort Benning in Georgia is moving forward with the V-REMS work and using the technology through an energy angle. They plan to collaborate with workgroup members Cristal Global, Essroc Italcementi, and EPA Regional Offices.

★ **Land Conservation Workgroup:** Partners contribute to the state land conservation target while building relationships with the community and improving the regional environment. Through collaboration with V-REMS partners, Fort A.P.Hill and Fort Pickett established significant land conservation easements.

★ **Green Building:** Fort Eustis' innovative approach to incorporate green building into its EMS has aided other V-REMS partners with integrating green building techniques into their own construction developments. Qimonda has also used green building technology to achieve cost reductions in its "clean rooms". Because of the established trust and communication network in the partnership, Fort Eustis and Qimonda readily shared their activities and lessons learned.



V-REMS partners from Wal-Mart, CVWMA, The Sustainability Park, and DEQ meet to discuss a CFL pilot recycling program.

HIGHLIGHT SHEETS

New highlight sheets that illustrate the joint efforts made by V-REMS partners in 2008 include the *CFL Recycling* and *Energy* workgroups, the latter of which incorporates the Biofuels, Audits, Clearinghouse, and Green Buildings subgroups. All highlight sheets developed throughout the course of the partnership can be found online at: <http://www.vrems.org/CaseStudies.cfm>

CFL RECYCLING WORKGROUP

■ V-REMS established a subgroup on CFL Recycling, leading to collaboration between Wal-Mart, VA DEQ, the Central Virginia Waste Management Authority (CVWMA), and The Sustainability Park to leverage regulatory assistance, contractors, lessons learned, and other information pertinent to the pilot recycling program they are developing.

■ Facing the challenge of liability issues with household hazardous waste collection, members of the workgroup reached out to other partners for help with deciphering the surrounding regulations. DEQ responded by authoring a condensed fact sheet about household hazardous waste collection and management, helping the pilot program to move forward at a quicker pace.

■ The success of CVWMA's electronic recycling events can be attributed to the dedication of the V-REMS partnership and the recycling workgroup in assisting with advertising, planning, and execution. In April alone, more than 200,000 lbs. of electronics were collected!

ACTIVITIES AND ACCOMPLISHMENTS

ENERGY WORKGROUP

Biofuels Subgroup

■ With the support of V-REMS, some partners have started pilot energy programs, which include the conversion of animal waste into fuel and fertilizer for the agricultural sector and the production of biodiesel from algae. The results of these programs have potential for implementation by other V-REMS partners.

■ V-REMS partners are working together to test the efficiency of biodiesel in boilers. To facilitate partnership biofuel projects, The Sustainability Park has offered the use of its boilers to partners DSCR and Hopewell Cogeneration to assess the effects of B-20 and other biofuels.

■ Cooperation between V-REMS partners, VA DEQ, VA Clean Cities, and the Virginia Department of Mines, Minerals, and Energy (VA DMME), led to production of a Biodiesel Primer on laws and regulations for protecting air, water, and land resources, assuring safe handling of hazardous materials, and proper disposal of wastes during the production of biodiesel. The primer is available on the V-REMS, VA DEQ, and VA Clean Cities Websites.

V-REMS: http://www.vrems.org/Resources_Template.cfm?FrontID=5751

Clean Cities: <http://www.hrccc.org/publicationsresources/resources.html>

VA DEQ: <http://www.deq.state.va.us/osba/new.html>



Harry Gregori (The Sustainability Park) and Al Christopher (VA Clean Cities) discuss V-REMS biofuel initiatives at the April subgroup meeting.

"V-REMS has created a forum for collaboration on biofuel projects. By working together, we help each other reduce pollution while exploring new technologies."

Harry Gregori, The Sustainability Park



Robin Jones (DMME), Dave Hufford (DSCR), Chuck Barnes (Hopewell Cogeneration), and Barbara Simcoe (DMME) at a workgroup meeting about developments in V-REMS biofuel initiatives.

"Through energy audits, we are making strides with energy cost reduction in our 'clean rooms.' The V-REMS partnership has provided additional information on issues of climate change regulation, metrics, and capturing baseline data."

Kevin Bald, Qimonda

Green Building Subgroup

■ At the USACE HQ LEED Implementation Webcast in July 2008, Fort A.P. Hill and other V-REMS partners learned strategies about how to incorporate green building into every phase of the construction process at their own facilities. By sharing these lessons learned with the rest of the partnership, they expanded the potential for others to successfully implement green building technologies.

■ V-REMS partners communicated to each other that green building concepts are sometimes value-engineered out because of high initial costs. As a result, partners have made it a priority to communicate solutions to assure that these initiatives can be maintained economically.

Audits Subgroup

■ Partners are doing energy audits and sharing important information and lessons learned from the results of the audits. Wal-Mart is performing audits at state capitols and is making the results available to the partnership, while Old Dominion is offering cost effectiveness energy surveys to organizations on a first come, first served basis.

■ VA DMME has encouraged state agencies and other V-REMS partners to select auditors from their list of pre-qualified energy service companies for their energy performance contracting efforts. There is a link to this information under Sector Specific Resources on the Energy Outreach and Education page of the V-REMS website.



Partners engage in discussion about green building and audits at the May Quarterly Meeting at DSCR.

V-REMS

OUTREACH was a critical aspect of V-REMS activities in FY 2008. It gave partners the opportunity to share their knowledge and absorb what others have learned. Partners who attended presentations brought information and materials back to the partnership about technology and experts who may benefit the partnership's objectives. The partnership always welcomes new sources of information, as this exchange is the very fuel of the V-REMS dynamic. If you have information or ideas that you believe would be of interest to V-REMS partners, please send them to vrem.admin@getf.org.



The Clearinghouse

■ New to the website this year is the Energy Outreach and Education Clearinghouse which provides resources and tools pertaining to State, Federal, and Sector Specific Resources; the Department of Defense; Local and General Resources; and Case Studies. The feature captures information transfer, as partners have already exchanged ideas about lighting, wrapping boilers in insulation, and deconstruction of buildings and recycling content.

■ The Clearinghouse is accessible to all who may be in need of information about a number of energy-related environmental issues. Partners wanted to ensure that this information was readily available to small businesses as it can help them operate more efficiently, resolve environmental problems, and address policy issues.

http://www.vrem.org/Energy_Outreach_Education.cfm

■ At the Army Installations Symposium and Exposition Conference and at the EPA/State Environmental Innovation Symposium, V-REMS presented current projects and workgroups, and demonstrated the partnership's replicability. Others who were interested in implementing a similar program left the presentations assured of the benefits of a regional environmental management system effort.

■ Other important outreach presentations took place at the Virginia Colleges and Universities Recycling Coordinators Workshop and the Virginia Chamber of Commerce Natural Resources Committee, further strengthening the partnership by expanding regional collaboration.

Targeted Initiatives for FY2009

Building on the success of the existing V-REMS efforts, the partnership may continue to replicate its efforts to other DoD facilities and forge into new areas of common interest including, but not limited to:

★ **V-REMS Green Collar Training and Job Placement:**

A green economy requires a trained workforce to employ in green collar jobs, yet the number and availability of green collar workers is not keeping pace with the number of green jobs being created. To address this problem, the V-REMS partnership may build an initiative to train returning veterans for positions that address environmental requirements, energy conservation, and sustainable use of natural resources.

★ **Green House Gas Emissions Reduction:**

V-REMS partners are concerned with their carbon footprint and are interested in lowering their greenhouse gas emissions within their organizations. Tools have already been placed on the V-REMS Energy Outreach and Education Clearinghouse to aid partners in calculating their baseline and current greenhouse gas emissions. The partnership may capture metrics to determine the overall partnership's GHG emissions savings and explore new technologies and innovative approaches.

V-REMS Partnership Sponsors:

Defense Supply Center Richmond, Defense Logistics Agency, DoD
White House Council on Environmental Quality

For More Information: Visit - www.vrem.org

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