2013 Governor's Environmental Excellence Awards Ceremony

Governor's Environmental Excellence Awards

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Virginia Department of Environmental Quality

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Gold Medal Winners

<u>DuPont Spruance Plant, Richmond</u>: Environmental Sustainability Program
DuPont Spruance's comprehensive sustainability program includes numerous highly-effective components which have resulted in reductions in energy use, water consumption, and generation of waste and air emissions. Examples include an active Six Sigma program (a team of highly-trained technical personnel who identify and implement projects driving continuous improvements in processes and procedures), implementation of the DuPont Production System (an integrated system designed to deploy best practices, develop people and organizational capability and find creative new ways to utilize assets and eliminate waste), and participation in the Responsible Care Management System, ISO 14001, the Virginia Environmental Excellence Program (E4), and the Certified Energy Auditor Training Program. From 2010-2012, DuPont significantly reduced its environmental footprint, including water reductions of 5,000,000 gallons per year, elimination of 230,000 pounds per year of hazardous waste, and solid waste reductions of more than 600,000 pounds per year, resulting in an estimated annual savings of more than $800,000. In addition, energy conservation has resulted in savings of almost $1 million.

<u>Joint Base Langley – Eustis (Eustis)</u>: Sustainability Program
Conservation of resources has been a long-time priority for the installation, and Fort Eustis has seen steady reductions in water, energy and fuel usage. Base leadership embraced sustainability through a strategic planning process that included installation goals of zero waste, resource efficient buildings, and continuous improvements to training lands, residential and office areas, and installation green space. Fort Eustis uses an ISO-14001-based environmental management system (EMS) to drive the sustainability program and track progress through measureable objectives and targets. In partnership with the Army Corps of Engineers, Fort Eustis closely monitored recent facility expansion and renovations to construct twenty U.S. Green Building Council Leadership in Energy and Environmental Design (LEED) buildings. As a Chesapeake Bay Partner, the installation has pursued stormwater best management practices and has inserted Low Impact Development aspects into many construction and paving projects. The base's training lands are vital to the Department of Defense mission, and the installation's sustainability program has ensured healthy forested lands, initiated efforts to control invasive species, and balanced wildlife and ecological factors.

<u>Joint Expeditionary Base Little Creek – Fort Story</u>: Sustainment Study and Energy & Natural Resource Conservation
Joint Expeditionary Base Little Creek – Fort Story's sustainability program consists of an active ISO 14001-compliant EMS, execution of a sustainability study to identify base-wide goals, use of a Cross-Functional Team to meet goals, and conservation of natural resources. The program was initiated to meet Department of the Navy and Executive Order goals and improve regulatory compliance. EMS training is required for all personnel working on base, and a wallet-sized "green card" with the environmental policy statement, significant aspects, and objectives is carried by employees. Priorities include improving recycling, green building and purchasing, protecting natural resources, and reducing toxic chemical, energy and resource use. Successes include reducing hazardous waste generation by 53%, reducing energy use by 52%, achieving a solid waste diversion rate of 43%, converting a coal steam plant to natural gas, reducing annual emissions by more than 500 tons, constructing three 3.7 KW wind turbines (the first Navy wind turbines in the Hampton Roads area), and, constructing ten LEED facilities. The installation attributes its success to leadership support, an effective education program, completion of the sustainability study, and incorporation of sustainability goals into future construction and training plans.

<u>MillerCoors Shenandoah Brewery, Elkton</u>: Sustainability Program
The MillerCoors Shenandoah Brewery's sustainability program consists of managing their environmental, social, and economic risks and opportunities in a strategic way to protect the company's reputation and maximize business value. By empowering grass roots teams and investing in capital improvements, the plant's environmental footprint has been reduced by focusing on five key areas: reducing energy, reducing water,

sustaining their zero-waste-to-landfill status, reducing their carbon footprint, and reducing their overall impact. MillerCoors goal is to reduce total water and energy usage by 15% from 2008 levels. The Shenandoah Brewery is one of the most energy efficient breweries in the world, ranking first in the MillerCoors network at 106MJ/hl (company average of 145MJ/hl). Water use has been reduced by 23% since 2008 including a 6% improvement in 2012 vs. 2011. Since 2011, the Shenandoah Brewery has uniquely applied membrane bioreactor technology to reduce nutrient discharges below required permit limits, which has become a model technology for other industries. The Shenandoah Brewery has also been a zero-waste-to-Landfill facility since 2009.

Pepsico Blue Ridge Gatorade, Wytheville: Wastewater Treatment Plant Beneficial Reuse
PepsiCo's Blue Ridge Gatorade plant, built in 2006, produces Gatorade, SoBe, Propel, and Lipton products, and was the first food and beverage manufacturing plant of its size to receive the prestigious LEED Gold certification. Examples of sustainability accomplishments at the facility include: solar panels that power external LED lighting; hybrid vehicles for company use; steam recovery to minimize boiler make-up water; gray water use in toilets and irrigation; recovery of heat from bottle coolers to pre-heat incoming water; addition of thermal insulation throughout the facility's piping system to increase efficiency; donation of waste dry sugar to local bee farmers; and, an extensive recycling program for cardboard, plastic, metal, glass and batteries, resulting in a 96.7% recycling rate. Most recently, the facility initiated a wastewater treatment plant beneficial use project to reuse almost 100% of the on-site treatment plant's by-products. After research showed that the plant by-product had nutritional benefits for crops, it was certified by the state and is now land applied on local farms at no cost. The plant also installed an innovative gas recovery system so that it can use biogas, a carbon-neutral form of energy, on-site in the boilers, thus reducing the need for fossil fuels.

Piedmont Environmental Council, Warrenton: Land Conservation Program
The Piedmont Environmental Council's (PEC) land conservation program combines public and private initiatives with creative market-based solutions to attain conservation goals identified by local and state governments with substantial input from citizens. Specific activities include conservation easement promotion through landowner outreach and education, educational workshops for professionals, support of local Purchase of Development Rights programs, and administration of nine land conservation funds. PEC has land conservation staff in each of the nine counties of their service region, enabling the organization to establish uniquely broad and deep long-term relationships with landowners and other stakeholders. PEC also provides land management services and technical assistance through their Sustainable Habitat Program. PEC is accredited by the Land Trust Accreditation Commission, an independent program of the Land Trust Alliance, a status only 180 land trusts nationwide have achieved. In addition to their work promoting and educating landowners about conservation options, PEC holds easements on 42 properties totaling more than 6,267 acres, and owns four properties protecting over 390 acres.

Prince William County Solid Waste Division: Sustainability Program
Prince William County's Solid Waste Division has had an EMS since 2003 and is the only active landfill in the state that has been accepted into the Virginia Environmental Excellence Program at the E4 level, the highest level of the program. The Division's vision of environmental sustainability has resulted in a broad program, with cutting edge initiatives in recycling, water quality, stormwater protection, erosion control, air quality, alternative energy, material reuse and habitat development. Facilities have been opened up to school groups, bird watchers, business groups, professional organizations, and everyday citizens. In addition to management support and a strong working relationship with regulatory agencies, community stakeholder involvement and pride have been keys to the program's success. Positive results of the Division's efforts include having one area designated as an Audubon at Home wildlife sanctuary in 2012 and prolonging the landfill's life expectancy to 2065 through citizen education and expanded recycling and composting opportunities.

Virginia Port Authority: Corporate Environment and Sustainability Program
The Virginia Port Authority oversees four marine terminals in Hampton Roads, the Virginia Inland Port in Front Royal, and the Richmond Deep Water Terminal, and is the only port in the nation to have its container terminals

ISO 14001 certified. The Port's sustainability program focuses on four elements: air quality, water quality, habitat restoration and creation, and energy conservation and alternatives. Initiated in 2002, the program encompasses all operations; examples of focal areas include stormwater, greenhouse gas emissions, toxics use reduction, greening of the supply chain, recycling, promotion of carpooling and teleworking, and the use of alternative fuels. Results include an annual sustained reduction of 30% in air emissions and 40% in water quality impacts from marine terminal operations, as well as the creation, restoration, and preservation of 50 acres of forested riparian buffer, tidal and non-tidal wetlands, open space, shallow water habitat, and oyster reefs. Recent energy conservation measures have resulted in a 40% decline in utility costs at the Norfolk terminal, with a total cost savings of over $50,000 annually from all recycling and energy efficiency efforts.

Virginia Tech, Blacksburg: Sustainability Program

In June of 2009, Virginia Tech's Board of Visitors approved a climate change action resolution, which then became university policy. A set of actions and measures to direct the university toward achieving the goals and targets of the resolution (which became the "Sustainability Plan") was developed. The plan has four major components: improving the efficiency of facilities and operations; enhancing academic programs related to sustainability; engaging with the larger Blacksburg community; and, changing campus culture and behavior to conserve energy, water and materials. The Office of Energy and Sustainability is responsible for monitoring energy usage and greenhouse gas emissions, overseeing the implementation of the resolution and plan, coordinating programs for campus sustainability, and managing a campus-wide student internship and undergraduate research program. In the first three years, nearly 90% of the immediate phase actions were completed or in-process. The university's efforts have been recognized nationally by: achieving a Silver Rating in the Association for the Advancement of Sustainability in Higher Education's Sustainability Tracking, Assessment and Rating (STARS) program, which is in the top 20% and the highest in Virginia; being selected by the Princeton Review's Guide to Green Colleges 2012 Honor Roll, one of only sixteen institutions; achieving Tree Campus USA status from the Arbor Day Foundation in the inaugural year of the program in 2008 and being re-certified every year since; and, being featured in the USA Today's Guide to Green Living 2011 Fall Edition.

Silver Medal Winners

Anheuser Busch Williamsburg Brewery: "Better Worlds Initiatives"

Anheuser Busch's Global Environmental and Health and Safety policies outline the foundational principles of the plant's sustainability program: compliance with all standards; production of products in the most environmentally responsible manner; incorporation of environmental targets into performance evaluations; employee participation and accountability; integration of environmental considerations into business planning, decision making and daily activities; ensuring safe and efficient operations while promoting continuous improvement; increased awareness of environmental programs and involved stakeholders; and, evaluating, benchmarking and communicating performance. Results from the Williamsburg brewery include: the recycling of more than 99% of its solid waste and byproducts, including more than 82,000 tons of spent grain that is used as feed by local farmers each year; savings from process improvements of over 16,000,000 gallons of water, 9% energy use, and 15% fuel use. Innovations in energy conservation, fluid savings, and waste reduction have been driven by employees through the company's "Excellence Thru Ideas" program, which solicits cost savings and conservation ideas. The facility's Environmental Committee, which consists of representatives from each operating department, promotes and helps organize community outreach events.

City of Virginia Beach/Trust for Public Land: Pleasure House Point Natural Area

Located just south of Chesapeake Bay, Pleasure House Point Natural area is 118 acres of water, tidal marsh, sandy shores, and maritime forest. One of the largest undeveloped parcels of land on the Lynnhaven River yet recently at risk for a large waterfront development, the property will now be permanently protected for generations to come. The project preserves wetland and maritime forest, provides opportunities for passive recreation, nature observation and non-motorized water access, grants opportunities to interpret various habitats and wildlife that

the coastal wetlands and maritime forests support, and fosters additional growth in community awareness and support for ongoing ecosystems. Other important project partners include the Virginia Department of Game and Inland Fisheries, the Virginia Department of Environmental Quality Clean Water Revolving Loan Fund, the U.S. Fish and Wildlife Service, Dominion Power, Wells Fargo and the Virginia Land Conservation Foundation.

Henrico County Public Schools Construction and Maintenance Division: Environmental Sustainability and Management System

In support of its commitment and vision to become the premier school division in the country, the Henrico County Public Schools Department of Construction and Maintenance developed and implemented an Environmental and Sustainability Management System as a management tool to document and measure the organization's environmental performance and sustainability. Accomplishments include: achieving LEED Gold for Glen Allen High School and LEED Silver for Holman Middle School; instituting procedures to eliminate the use of caustic floor cleaners; eliminating 26 methylene chloride containing products; reducing by one-third the warehouse inventory of environmentally hazardous products; implementing an aerosol management program to collect and recycle the residual content of cans and prevent release to the environment; reducing energy use by 30% through lighting upgrades; implementing no vehicle idling and no vehicle washing policies; and, promoting school-based recycling efforts.

Smithfield Packing Company, North: Smithfield Sustainability Program

Smithfield's sustainability program is comprised of six pillars: animal care, employees, environment, food safety and quality, helping communities, and value creation. The company has defined goals for improvements in water use, energy use, greenhouse gas emissions, solid waste generation, packaging materials used, and regulatory compliance. Between 2008 and 2012, Smithfield reduced solid waste by 60%, water use by 17%, energy use by 13%, and carbon dioxide equivalents by 20%. Examples of sustainability projects include composting sludge and non-pork inedible meat, reusing or recycling used oil, and recapturing hot water for reuse. Smithfield's sustainability program extends beyond the fenceline through their community outreach initiatives, which has included participation in road cleanups, Adopted Highway Program and Clean the Bay Day, as well as sponsorship of the World Water Monitoring Challenge with local schools. Stakeholders are engaged on issues that arise from all six of the company's sustainability pillars, including the company's goals and progress toward meeting them.

Bronze Medal Winners

Fareva Richmond: Zero Landfill Program

Fareva Richmond, which manufactures and packages pharmaceutical and consumer products for distribution worldwide, has long been working on a Zero Waste Initiative which strives to recycle 95% or more of all waste generated at the site. A new effort in support of Zero Waste is the Zero Landfill Program, which was designed to help reach the "high-hanging fruit" and move the facility's overall recycling number from 93% to 95% and beyond. The Zero Landfill Program focuses on seventeen distinct and diverse areas of the facility, including manufacturing areas, packaging lines, laboratories, and warehouse spaces. During the nineteen months that the program has been operational, the site shipped approximately fifty fewer loads to the local landfill due to waste diversion efforts, saving landfill space, disposal costs, and fuel while reducing air emissions.

James Madison University, Harrisonburg: Student Learning Outcome Assessment Instrument

All divisions of James Madison University (JMU) are charged with a responsibility for environmental stewardship via JMU's 18th defining characteristic (adopted in 2009): "The University will be an environmentally literate community whose members think critically and act, individually and collectively, as model stewards of the natural world." While greening internal operations is viewed as essential, JMU believes that higher education institutions have the additional and primary obligation of educating students. The university's assessment and outcomes project challenges all graduates to think critically about their role in environmental stewardship, to integrate environmental stewardship into JMU's culture, to facilitate greater conservation behaviors, to measure JMU's

student environmental literacy progress, and to strategically target future undergraduate environmental literacy programs. The project also affects the greatest change by potentially changing the behavior of every graduate. The learning outcomes and assessment project measures the educational impact of university environmental literacy efforts and will contribute to behavior change over time.

Joint Base Myer – Henderson Hall: Sustainability Program
Joint Base Myer – Henderson Hall is a small, yet high profile military installation comprised of three military bases physically located in Arlington and the District of Columbia. The base is home to The Old Guard, the Official Army Honor Guard, which provides military funeral escorts at Arlington National Cemetery, and to the U.S. Army Band. The Army's top institutions for the education and development of senior leaders are also on the base. The comprehensive 25-year sustainability program includes both the natural and human environment found on the installation and employs a systems-based approach to sustainability, recognizing the interrelatedness of Mission, Community and Environment. An Environmental and Sustainability Management Plan has also been implemented as a method of tracking objectives undertaken to meet the base goals. Results include: implementation of a green procurement plan; construction of a large composting project for horse and stable waste from The Old Guard's Caisson Platoon; conversion of three high profile areas from conventional grass to native landscaping sites; construction of a LEED Silver barracks building; and, energy and water conservation retrofits of older buildings.

NASA Langley Research Center, Hampton: Trash-Powered Research: Optimizing Biomass Energy
Since 1917, Langley Research Center (LaRC) has been vital to NASA's innovative role in aerospace technology, space exploration, and the understanding of the Earth's changing climate. LaRC is dedicated to accomplishing its mission in a sustainable manner, with innovative and effective environmental stewardship as one of its primary guiding principles. The Center has an extensive steam infrastructure that has been used for over 60 years. Steam is used not only for heating and cooling purposes, but also for research operations in seven wind tunnels on the Center. Standard practice at LaRC had been to operate the wind tunnels using steam from the Center's onsite Steam Plant's dual-fuel boilers, which use natural gas, in addition to using steam from a waste-to-energy (WTE) biomass (municipal solid waste) plant on NASA-owned land adjacent to the Center operated by the City of Hampton. In 2011, LaRC implemented a focused initiative to increase use of steam from the WTE plant, thereby reducing the use of steam from the Center's fossil fuel-powered plant. The project focused on operational and cultural initiatives to overcome communication gaps and change long-standing practices and biases. As a result of the effort, LaRC realized a 47% reduction in natural gas and 2 million gallons of water.

University of Virginia Healthsystem, Charlottesville: Sustainability Program
The University of Virginia (UVA) Health System Sustainability Program includes all facets of the Medical Center, School of Medicine, School of Nursing and the Health Sciences Library, as well as over 10,000 service providers. The groundwork for the program was laid in 2008, when the Clinical Nursing Leadership Students and Magnet Champions evaluated waste production and recycling within UVA Hospital. A program was formally established in 2009 in response to an executive order related to greening of state government. Due to the large volume of waste generated in a health care setting, waste reduction and recycling are a key focus. Recycling continues to be expanded in terms of locations, schedules, and types of recyclables accepted. In addition, the program has targeted energy use: the first building targeted had $1,000,000 in energy savings from 2009-2011. Information technology and software products that allow the reduction of energy and paper use have been implemented hospital-wide. For example, telemedicine supports access to clinical services throughout the 85-site network to help provide services without the need for patients to travel to Charlottesville.

Virginia Department of Corrections: The Department's Sustainability Program came about through the gradual implementation of actions: implementation of the Energy Conservation Plan in 1992 as a technical guideline for heating cooling and conservation compliance; development of the Water Conservation and Management Plan enacted in 2000 as a guide for water conservation throughout the agency; establishment of the Recycling and Sustainability Coordinator position in 2009; and, the subsequent Sustainability Policy enacted in 2012 that

brought all of the previous steps under one umbrella along with stipulations for waste reduction, travel, and procurement standards as well as facility construction/location requirements. The primary benefits are the reduction of waste streams and conservation of resources. The keys to its success have been ensuring that all 11,000+ employees are aware of the policy and its regulations along with ensuring that the executive teams, wardens/superintendents and the recycling/sustainability coordinator are enforcing the policies.

Honorable Mention Winners

Covanta Alexandria/Arlington: Environmental Management System
The facility, which processes solid waste and generates electricity, adopted an EMS which has been recognized by EPA and DEQ and has contributed to Covanta's exemplary environmental compliance record. Notable examples of achievements include the installation of a magnet to remove ferrous metals from the ash post combustion, lowering NOx air emissions, wastewater reuse, and energy conservation.

City of Winchester: Urban Waste Wood Recycling Program
The goal of this project is to have municipal tree material utilized through partnerships rather than have it go to the local landfill, resulting in reduced landfilling costs, engaging the community, providing low income residents with firewood, and offering unique wood materials for local consumers. Approximately 415 tons of woody debris have been diverted through the program.

Howmet Castings & Services, Hampton: Landfill Reduction Project
The Howmet casting facility in Hampton is the leading producer of complex investment cast turbine airfoils for the industrial gas turbine industry. The company has a corporate goal to reduce landfill waste by 75% by 2020 and to reach zero landfill by 2030. Since 2011, the plant has eliminated all scrap and waste wax from the process (about 10% of the landfill waste stream) from going to the landfill.

Kingsmill Resort, Williamsburg: "Ecologix" Program
Kingsmill's Ecologix program, modeled after those successfully implemented at other Xanterra Parks & Resorts, is an EMS designed to create a logical integration of ecology and business. It has resulted in environmental improvements and cost savings. Key to the program has been getting buy-in from employees and guests.

Loudoun County Public Schools: Energy and Environment Program
Loudoun County, the fourth largest school district in the Commonwealth, educates over 68,000 students at 80 schools and two other centers. The Energy and Environment Program has been in place for 19 years and has reduced the district's energy consumption by over 2.6 trillion BTU. In addition, more than 753 million gallons of water have been conserved, and the school system has achieved cost savings of $47.5 million.

Marstel-Day LLC, Fredericksburg: "Reaching a Deeper Shade of Green" Initiative
The consulting company has a long-term commitment to conserving natural resources and wildlife habitat. Through this initiative, Marstel-day has communicated and implemented green practices across the workplace related to procurement, energy efficiency, waste reduction, water conservation, pollution prevention, electronics management, recycling, composting, building performance, and greenhouse gas reductions.

Masco Cabinetry – Mt. Jackson: "Tomorrow's Thinking Today" Initiative
The company incorporates the reduce, reuse, and recycle principle into their products, processes, and facilities through product design, pollution prevention, employee training and engagement, compliance with environmental regulations, and continual improvement to their EMS. Results include reductions in water use, air emissions, materials use, hazardous waste generation, and energy use.

Virginia Commonwealth University: Sustainability Program
The university's Sustainability Program is comprehensive and addresses reducing greenhouse gas emissions, green building standards for all new construction, purchase of energy efficient appliances and products, reducing commuter driving by faculty, staff and students, using renewable energy sources, conserving water, minimizing solid waste generation, and developing a sustainable foodservice on campus (composting organic waste and purchasing locally grown produce).

Virginia Eagle Distributing, Verona: Sustainability Initiative
The company has set a goal to be a leader in corporate sustainability and targets areas that are most relevant to their operations and values: financial performance, carbon footprint, waste reduction, economic prosperity, and outreach and advocacy. Examples of projects include the installation of two solar panels to charge the life gate batteries for larger trucks, saving $500/month in electricity, and the efficient routing of trucks, which reduced mileage by 90,000 last year. Other results include reducing material use by 25% and solid waste generation through recycling and reuse.