

Virginia Environmental Excellence Program Implementation

***A Report to the Honorable Robert F. McDonnell, Governor
and the House Committee on Agriculture, Chesapeake and Natural
Resources and the Senate Committee on Agriculture, Conservation
and Natural Resources***

Virginia Department of Environmental Quality

December 2010

EXECUTIVE SUMMARY

This report is being submitted pursuant to Virginia Code § 10.1-1187.5. (B) which requires the Department of Environmental Quality (DEQ) to submit a report on the status of implementation of the Virginia Environmental Excellence Program (VEEP) by December 1 of every even-numbered year through 2010. This report provides information regarding DEQ's implementation of the VEEP including information from VEEP participants' reports to DEQ as well as information on the incentives that have been provided and the innovations that have been developed by both DEQ and the program participants. The Department submitted its first VEEP implementation report in December 2006. This report documents the status of the program's participation, environmental results, incentives, and DEQ's outreach activities during 2009 and 2010.

INTRODUCTION

In 2005, the Virginia General Assembly adopted legislation establishing the voluntary recognition and incentive initiative called the Virginia Environmental Excellence Program (VEEP) to

recognize facilities and persons that have demonstrated a commitment to enhanced environmental performance and to encourage innovations in environmental protection.

See Va. Code § 10.1-1187.2. DEQ's Office of Pollution Prevention, which promotes voluntary source reduction efforts through many initiatives, implements the program. Facilities must apply to be part of the program and must demonstrate their commitment to environmental performance through the development of environmental management systems (EMS), implementation of pollution prevention programs and compliance with environmental regulations. As set forth in § 10.1-1187.1 of the *Code of Virginia*, an EMS is a comprehensive, cohesive set of documented policies and procedures adopted by a facility which is designed to result in environmental performance improvements through planning, documented management and operational changes, self-assessments, and management review.

There are three types of VEEP participation for interested facilities:

- E2 (Environmental Enterprise) for facilities that have made significant progress toward the development of an EMS, have made a commitment to pollution prevention and have a record of sustained compliance with environmental regulations.
- E3 (Exemplary Environmental Enterprise) for facilities that have exceeded the E2 requirements and have a fully-implemented EMS.
- E4 (Extraordinary Environmental Enterprise) for facilities that have exceeded the E3 requirements, have completed at least one full cycle of an EMS as verified by an unrelated third-party auditor and have demonstrated a commitment to continuous and sustainable environmental progress and community involvement.

Facilities are accepted for a three-year period and must renew their participation thereafter by submitting a renewal application. Participants also are required to submit an annual performance report by April 1st for the previous calendar year to be considered to be in good standing with the program.

PARTICIPATION IN VEEP

At the end of 2010, the program had approximately 450 participants in the program (including those already accepted and those with submitted applications pending review). Sixty-three percent of the participating facilities are at the E2 level, 31% are E3 and the remaining 6% are E4 facilities. Almost half of the current VEEP participants are local government facilities. State agencies comprise almost 25%, manufacturers comprise 8%, federal facilities comprise 7% and facilities from other sectors comprise 12%.

BENEFITS OF PARTICIPATION

Members of the Virginia Environmental Excellence Program enjoy two types of incentives: recognition and regulatory flexibility.

Recognition

Upon request, DEQ recognizes new and renewing VEEP facilities at ceremonies throughout the Commonwealth. In 2009 and 2010, DEQ participated in almost sixty events. These events focus attention on the member's efforts to improve the environment by minimizing its footprint. The ceremonies also emphasize the positive partnership shared by DEQ and its VEEP members and highlight the individuals who commit to reduce their facility's impact, as well as the administrators and managers who support them. Typically the ceremonies include representatives from DEQ's Central Office and the appropriate DEQ Regional Office, local elected officials, and facility managers and staff.

Regulatory Flexibility

Regulatory flexibility can take the form of incentives applicable to all facilities of a certain type (i.e., E2, E3, E4) or innovations agreements specifically tailored for individual facilities referred to as "alternate compliance requirements."

- (1) Revisions to legislation, policies, procedures, regulations and/or grant workplans
There are currently seven such incentives available to VEEP participants. A status report on each is included in Appendix A.
- (2) Facility-specific variances or Alternate Compliance Methods, for E3 and E4 facilities as authorized by the 2005 VEEP legislation. Alternate compliance methods approved in 2009 and 2010 include:
 - In 2010, the Philip Morris Park 500 plant in Chesterfield, an E4 facility, requested and was granted the following flexibility: (1) reduction in the frequency of monitoring of pH from once per day to five times per week; (2) removal of nutrient limitations and monitoring in the facility's individual permit because those parameters are covered by the facility's Chesapeake Bay Watershed General Permit; and, (3) permission to perform a pilot study of

their Natural Treatment System (NTS) to determine if the facility can reduce or eliminate the amount of sodium bisulfite used in their treatment process yet maintain water quality by demonstrating that the NTS can de-chlorinate the wastewater stream through natural processes prior to discharge to the river.

- In 2010, the Chesterfield County Proctors Creek Wastewater Treatment Plant, an E3 facility, requested and was granted specialized permit language to simplify the Total Residual Chlorine (TRC) permit terms and reduce redundancy should chlorination not be utilized as the mode of disinfection.

ENVIRONMENTAL RESULTS REPORTED BY VEEP FACILITIES

As noted above, to remain in good standing with the program, participating facilities must submit an annual report to DEQ by April 1st for the previous calendar year. The report has three primary purposes: (1) to allow facilities to demonstrate progress in pollution prevention and environmental management; (2) to allow DEQ to confirm that each member facility is maintaining its qualifications under the program; and (3) to inform DEQ and the public on the effectiveness of the VEEP program.

Facilities submit information to DEQ via an on-line reporting system. They must provide general background information, quantified results from beyond-compliance EMS and pollution prevention activities, and updates on the development of their EMS as well as any environmental compliance issues that have arisen over the past year. Environmental performance is reported using a comprehensive list of standard categories and indicators:

- Air emissions (nitrous oxide, particulate matter, sulfur dioxide, toxics, volatile organic compounds, other air emissions);
- Energy use (purchased electricity, on-site energy combustion, total energy use, other energy use);
- Water discharges (biological oxygen demand, chemical oxygen demand, nutrients, sediments, suspended solids, toxics, other water discharges);
- Water use (virgin water use, reclaimed/recycled water use, total water use, other water use);
- Waste (hazardous waste disposed, hazardous waste recycled, non-hazardous waste disposed, non-hazardous waste recycled, other waste);
- Materials use (hazardous materials use, non-hazardous use, recycled material use, other materials use);
- Land use (land preserved, land restored, other land use); and,
- Product performance (projected product lifetime energy/water use, projected end-of-life waste, packaging waste, other).

Facilities report results in both actual and normalized quantities (i.e., results based on production, number of employees, etc.). Normalized results allow facilities to better track year-to-year performance. Reports submitted in 2010 show improvements in many of the

measures over those reported in 2009. In addition to \$24.6 million in cost savings, participating facilities reported the following actual positive environmental impacts:

- Reduced total water use by more than 994.4 million gallons
- Reduced the amount of hazardous materials used by 7.8 tons
- Reduced hazardous waste generation by 523.7 tons
- Reduced greenhouse gas emissions by 3,900 tons
- Reduced volatile organic compounds (VOCs) by 5 tons
- Reduced total energy use by 145,400 MMBtus
- Conserved 187 acres of land

The overall program results as presented below should only be considered as a general indication of VEEP facility performance because: (1) the program is voluntary and data is reviewed as submitted by the facilities; (2) many facilities still have limited experience tracking environmental data; (3) in some cases the numbers shown represent a single facility; and, (4) the reports are a snapshot from one year and may not reflect overall reduction trends.

Examples of individual VEEP facility progress and successes:

- A city was able to reduce the amount of water use (production and virgin water use) by reducing the amount of unaccounted-for water loss in their distribution system. This was accomplished by conducting a water loss survey and repairing water mains, water valves, fire hydrants and service line leaks on a priority basis. Between 2008 and 2009, the city saw a reduction in water use of 160,491,000 gallons, or 21%.
- A public school system completed lighting upgrades at five schools and distributed monthly updates on energy and water usage to all schools. Energy savings to date equal \$33,000.
- A manufacturer instituted a continuous improvement project to reduce their hazardous waste generation from waste ink. Hazardous waste was reduced by 43,000 pounds, saving \$8,500.
- An organization in Northern Virginia tested innovative technologies and techniques to recover, reuse, and recycle lead from their shooting ranges. As a result of these efforts, there was a net reduction of more than nine tons of lead and mixed materials from the property.
- A community college implemented an array of approaches to reduce their environmental footprint, including: (1) instituting a recycling center on campus to reduce the landfilling of recyclable materials; (2) investing in a shuttle service to reduce carbon emissions from commuter vehicles; (3) installing new heating and air conditioning systems to reduce energy consumption; (4) installing replacement doors to reduce loss of heat and decrease energy consumption; and, (5) implementing a teleconferencing system to reduce the need for travel. The free shuttle service runs between the campus and nearby cities and is used by approximately 4,000 students per month. The school has calculated the energy

reductions and savings: 18% decrease in energy use, \$28,000 in savings, and 323 tons reduced CO2 emissions.

- A manufacturer with a no-landfill policy for all wastes implemented an environmental evaluation project, designed to reduce the facility's environmental footprint. Notable initial accomplishments include replacing an organic solvent with a less volatile and more environmentally-friendly corn-based chemical, lowering the facility's annual chemical emissions by 14%, and eliminating the facility's chlorinated solvent waste stream, which is now reclaimed for reuse.
- A manufacturer reduced its use of electricity and natural gas through a behavior based energy management system, resulting in savings of \$46,000. Significant investments in a behavior based energy (including water) management system and water re-use projects resulted in a 9.5% improvement in total water use from 2008 to 2009, with a savings of \$323,000.
- A federal facility that recycles many forms of non-hazardous solid waste such as office paper, shredded paper, plastic, cardboard, miscellaneous scrap metal including food and beverage cans, scrap brass, yard waste, used kitchen oil, wood pallets, batteries, antifreeze, freon, used motor oil, fluorescent bulbs and ballasts, tires, electronics, and construction and demolition debris (concrete block, brick, rubble, clean soil, wood, metal, etc.), and re-used excess property, generated revenues of more than \$2.6 million.

OUTREACH PARTNERSHIPS WITH OTHER ORGANIZATIONS

Since its inception, support from DEQ partnerships has been critical to VEEP's continued growth and development. Four of DEQ's key partners are: EPA; the Virginia Regional Environmental Management System; the Virginia EMS Association; and Virginia Tech's Center for Organizational and Technological Advancement. DEQ's work with each of these organizations is described below.

DEQ signed a Memoranda of Agreement (MOA) related to the VEEP with EPA Region 3 in July, 2000. The MOA outlines the agencies' commitment toward regulatory innovation in the context of the VEEP and identifies the processes and procedures that will be used to review VEEP applications as well as requests by VEEP E3 and E4 participants for regulatory flexibility.

In March 2007, DEQ competed for and won a \$225,000 State Innovations Grant from EPA to fund a three-year effort to better integrate the VEEP into core agency regulatory programs. The grant supported a number of activities considered key to the future success of innovative programs such as the VEEP, including: engaging both internal and external stakeholders such as DEQ managers and representatives of not-for-profit organizations, financial institutions and facilities; revising internal policies and procedures; focusing outreach strategies; and training DEQ staff. The project was implemented during 2008-2010 and resulted in numerous program improvements and suggestions for future program activities.

The Virginia Regional Environmental Management System (V-REMS) is a statewide partnership that includes over 60 federal, state, and local public and private organizations that collaborate to address community and environmental issues. DEQ was one of the original four participants in this partnership. V-REMS is sponsored by the Defense Supply Center Richmond, a VEEP E4 facility.

An alliance of Virginia public entities, private business and colleges and universities, the Virginia EMS Association (VEMSA) was formed in 2006 to facilitate collaboration, mentoring, education, and information-sharing among EMS practitioners. Most VEMSA members are part of the VEEP.

For Additional Information:

VEEP Website: www.deq.virginia.gov/veep

Appendix A: Regulatory Incentives Adopted or Under Development

Incentive	Code, Regulation or Grant Agreement Citation	Effective Date	VEEP Categories Affected	Explanation	Number of Affected Facilities	Results
Annual Permit Fee Discount – Water	Water fee regulation (9 VAC 25-20-145)	9/8/2004; first discounts offered in 2005 for calendar year 2004	E2, E3 & E4	In 2004, DEQ was directed by the General Assembly to revise its water permit fee structures to fund the agency's permitting activities. The new permit fee regulation includes discounts for facilities participating in VEEP covered by the water permitting programs: E2 – up to 2%; E3/E4 – up to 5%; total not to exceed \$64,000 annually.	2009: 50 2010: 44	Permit fee savings to members: 2009: \$27,448 2010: \$37,702
Annual Permit Fee Discount – Hazardous Waste	Hazardous waste fee regulation (9 VAC 20-60-1286)	9/8/2004; first discounts offered in 2005 for calendar year 2004	E2, E3 & E4	In 2004, DEQ was directed by the General Assembly to revise its waste permit fee structures to fund the agency's permitting activities. The new permit fee regulation includes discounts for facilities participating in VEEP covered by the hazardous waste program: E2 – up to 5%; E3/E4 – up to 10%; total not to exceed \$26,000 annually.	2009: 28 2010: 24	Permit fee savings to members: 2009: \$2,830 2010: \$3,020
Annual Permit Fee Discount – Solid Waste	Solid waste fee regulation (9 VAC 20-90-117)	9/8/2004; first discounts offered in 2005 for calendar year 2004	E2, E3 & E4	In 2004, DEQ was directed by the General Assembly to revise its waste permit fee structures to fund the agency's permitting activities. The new permit fee regulation includes discounts for facilities participating in VEEP covered by the hazardous waste program: E2 – up to 10%; E3/E4 – up to 20%; total not to exceed \$140,000 annually.	2009: 33 2010: 34	Permit fee savings to members: 2009: \$54,358 2010: \$86,585
Solid Waste Permit Review Preference	Permit Efficiency Study, SW Opportunity 3, Task 4: Hierarchy of Solid Waste Permitting Review Priorities	2/25/2007	E3 & E4	Participation at the E3 or E4 levels of VEEP may afford a facility with a higher level of permitting priority than would otherwise be available.	No requests received.	N/A
WWTP Nutrient Limits Incentive	Guidance Memo No. 07-2008, Amendment 2, Permitting Considerations for	11/16/2005	E3 & E4	The Regulation for Nutrient Enriched Waters and Dischargers within the Chesapeake Bay Watershed requires annual average total nitrogen and/or total phosphorus concentration limits for facilities in the	10 of the facilities currently in VEEP (or under review for participation)	The potential reduction in liability of the waiver is

Incentive	Code, Regulation or Grant Agreement Citation	Effective Date	VEEP Categories Affected	Explanation	Number of Affected Facilities	Results
	Facilities in the Chesapeake Bay Watershed (also found in 9 VAC 25-820)			bay watershed that install nutrient removal equipment. This provision waives the limit(s) for facilities that operated in good standing in the VEEP the previous calendar year. Under the conventional approach, the permit limits would always be in effect and violation of the limits could result in significant penalties. With the incentive, the plant owner has the option of qualifying for E3 or E4 status, and include as part of his EMS a commitment to operate his nutrient removal facilities at the efficiencies they are designed to achieve. Once approved under this ACM, the permit limits for nutrients are suspended and the owner is not liable for any penalties for failure to meet the intended nutrient removal efficiencies. Once in the program, the consequence of poor performance is the loss of the privilege of operating with suspended limits (w/o liability of enforcement penalties), but plants can "earn" their way back into the program.	are installing nutrient removal technology; all of them could potentially avoid limits if they are at the E3 or E4 level.	significant. Currently, DEQ civil penalties for permit violations can be set for up to \$32,500 per violation, per day.
Public Notices	N/A	2007	E2, E3, E4	Facilities in VEEP that are referenced in DEQ public notices are identified as being in the program.	All VEEP facilities.	
Electronic Submission of Water Discharge Monitoring Reports (eDMRs)	N/A	Not in effect yet for all VEEP facilities.	E3 & E4	The due date for Discharge Monitoring Reports can be moved to the 24 th of the month if the facility is also participating in the eDMR program.	One facility has been granted this waiver. Without additional programming, e-DMR cannot accommodate a date change from the 10 th to the 24 th of the month.	N/A