



Environmental Protection Matters

DNREC Office of Environmental Protection

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Breaking Bad at DNREC

When DNREC's Division of Waste and Hazardous Substances (WHS) met with the Delaware State Police to determine the state's response protocol for the growing number of clandestine methamphetamine laboratories, there was little debate on who should be first in the door with the investigator.

Definitely DNREC's Emergency Response Team (ERT), to conduct hazardous chemical monitoring, field identification of potential hazardous chemicals, and on-scene hazard mitigation.

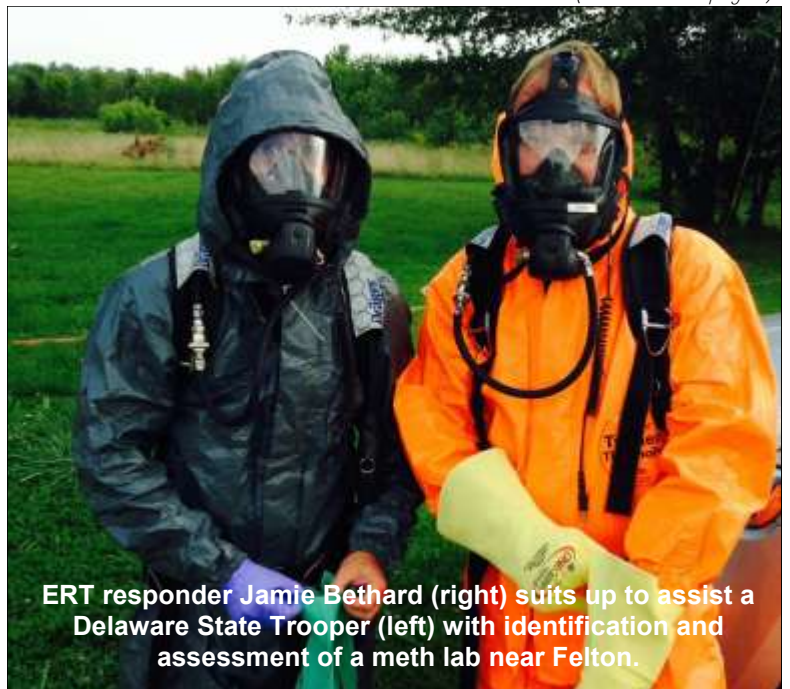
The ERT is comprised of some of DNREC's finest employees, from WHS' Emergency Prevention and Response Section (EPRS) and other WHS Sections; Community Services' Environmental Crimes Unit (ECU); and from the Divisions of Air and Water.

Over the years, the ERT has earned a stellar reputation for exemplary service with safety-first, boots on the ground, outstanding, 24/7 emergency response to protect human health, safety and the environment.

The dedicated and highly-trained DNREC ERT includes three full-time environmental scientists, a program manager and a tireless administrative support specialist in the EPRS, eleven ECU officers, and nine volunteer environmental scientists and engineers from within DNREC. These individuals form the critical hazardous materials and weapons of mass destruction response component of Delaware's State Emergency Response Team (SERT).

Although meth labs are considered a criminal activity, DNREC ERT is an essential first responder to the scene to help identify the type of lab and any

(Continued on page 2)



ERT responder Jamie Bethard (right) suits up to assist a Delaware State Trooper (left) with identification and assessment of a meth lab near Felton.

Breaking Bad at DNREC *Continued...*

potentially—explosive atmospheres, render safe the laboratory vessels, and address hazardous waste issues.

The ERT members have extensive training in clandestine labs for making drugs and homemade-explosives; radiation, biological and chemical warfare agents; and toxic industrial chemicals. The ERT is very familiar and knowledgeable regarding all levels of personal protective equipment and decontamination procedures, as they confront a wide variety of incidents ranging from transportation-related, to anthrax scares, to railcars containing shale oil, chlorine or other hazardous materials.

The ERT also has developed specialized expertise making them the go-to-guys/gals for many other hazardous operations and activities including helicopter to tanker-ship deck training for potential hazardous material (HazMat) releases in the Delaware Bay and specialized drilling for overturned tankers to help control vapors and offload contents. Sitting on top of a tanker with a sparkless drill and a lot of biodegradable, aluminum metal-cutting oil may sound crazy, but it is now considered “routine” by the ERT after drilling numerous overturned tankers.

The ERT must respond to accidents at a moment’s notice, which also takes extensive training and coordination with other State Emergency Response Team members including local fire companies, Delaware State Fire School, Delaware State Police, Delaware Department of Transportation (DelDOT), the Delaware Department of Health and Social Services-Division of Public Health, and the



ERT responder Jamie Bethard dismantles/render safe a reaction bottle from a meth lab during an assist with the Maryland State Police and Caroline County Drug Taskforce.

Delaware Emergency Management Agency (DEMA).

In addition, the emergency responders train with the Delaware State Police Explosive Ordinance Disposal Unit and assist in the evaluation of unidentified chemicals and air monitoring data from ERT instruments mounted on Explosive Ordinance Disposal robots. Members of the ERT also pre-stage at large public events (e.g., NASCAR, Firefly and Big Barrel Music Festivals, as well as political events that have a high potential threat value). The incident trends for the past year are:

- 60% involve only the ERT;
- 50% are petroleum-related releases; and,
- 50% are located in New Castle County.

If you would like more information on DNREC’s ERT, please visit:

<http://www.dnrec.delaware.gov/dwhs/EPR/Pages/RespGroup.aspx>

You can also find a new video featuring the ERT on DNREC’s YouTube Channel at:

<http://www.dnrec.delaware.gov/Pages/Portal.aspx>

*Article by J. Bethard, EPRS
and C. Wirtz, WHS*



The chemicals from the meth lab are safely destroyed on site.

Emergency Prevention and Response Section by the Numbers

The Emergency Prevention and Response Section (EPRS) is responsible for activities related to petroleum and hazardous substance emergencies, from planning to preventing to responding. Jamie Bethard was recently promoted to Section Manager of the EPRS. The EPRS maintains a rapid, comprehensive, 24/7 response for statewide, emergency and non-emergency, oil and hazardous substance incidents to protect human health, safety, and the environment. The EPRS also responds outside the state for Delaware-related impacts. The section is comprised of three groups: Accidental Release Prevention, Emergency Planning and Community Right-to-Know, and Emergency Response, with one tireless administrative support specialist, Donna Donovan, supporting the three groups.

- Delaware's two-person Accidental Release Prevention Program, consisting of Mark Dolan and Ken Cenci, regulates 108 sites with extremely hazardous chemicals in the state. This includes everything from the refinery in Delaware City to propane distributors (due to the potential for explosions if not handled properly). By utilizing process safety management, a risk management process, they work with facilities to prevent catastrophic releases.
- The four-person Emergency Planning and Community-Right-To-Know Program, consisting of Robert Pritchett, Brian Lutes, John Outten and Phyllis Fox, regulates over 1,800 sites in Delaware with hazardous chemicals. This program provides information to emergency responder's, such as fire fighters, police officers and Local Emergency Planning Committees, who develop response plans in the event of an emergency at one of these facilities. In addition, through the Toxic Release Inventory (TRI) program, this group collects and distributes data on the use, release and management of toxic chemicals for over 60 large industrial sites. This data is publicized annually to promote public involvement in managing releases.
- Delaware's Emergency Response Team handled approximately 400 responses in 2014. Over 50% were in New Castle County, with Kent and Sussex at about 25% each. Petroleum products released from vehicle accidents were by far the most common responses, followed by oil spills from home heating-oil tanks and oil and gas spills at marinas or rivers and streams. Delaware has three full-time responders—Erich Schuller, Matt Higgins and Rebecca Keyser—who work with the officers in DNREC's Environmental Crimes Unit and additional Department staff to help cover evenings and weekends, as well as major events.

For more information about the EPRS, please visit:

<http://www.dnrec.delaware.gov/dwhs/EPR/Pages/EPRPortal.aspx>

Article by M. Crofts, WHS



DNREC emergency response vehicles are ready to respond 24/7 from the field office on Penny Lane in Dover.

Holmes on the Range

Mmeet Virgil Holmes, DNREC's Renaissance man. Not only is he the new Director of the Division of Water managing a staff of 100, but also, he is an experienced heavy equipment operator and quite handy with a hammer and nails. He even participated in the construction of the lovely log home that he shares with his wife, Jennifer, on their farm (see photos right and on page 5).

In addition, like all good Renaissance men, Holmes has an artistic side and, until just a few years ago, owned his own wetlands restoration and landscaping design company in Cincinnati. He worked with golf legends, Arnold Palmer and Pete Dye, as well as the PGA Tour, to design and build manmade waterfalls, streams and wetlands for world-class golf courses (see photos below).

But that's not all, his business specialized in wetlands and stream restoration. Holmes estimates



Stream designed and built for The Springs development in Springboro, Ohio.



Virgil and Jennifer out for a walk on the farm, located east of Route 9 in the Dover area.

that he has designed and built more than 1,500 acres of wetlands and two miles of streams!

Oh, and in his spare time, he is an avid hunter, fisherman and all around outdoorsman, who likes to build wildlife habitats. You can also add "accomplished archer and teacher," as he really enjoys teaching archery for DNREC's Becoming an Outdoors Woman (BOW) program.

Holmes grew up in the Chicago area where he first developed his passion for hunting, fishing



Waterfall designed and built for the TPC Golf Course at Rivers Bend in Lebanon, Ohio.

(Continued on page 5)

Holmes on the Range *Continued...*

Photos clockwise from right: Bass fishing in northern Maine—Virgil went with Jennifer, but states her fish was too small to warrant a photograph! Hunting on the farm with Jennifer and former Fish & Wildlife Director Andy Manus—photo included in the “Thank You Delaware Bay” public awareness campaign. Holmes family homestead east of Dover that includes a beautiful wetland front yard.



and the great outdoors. He attended Purdue University and earned a BS in Wildlife Science. He then attended the University of Memphis where he completed two years of graduate studies and conducted research on endangered bat species in Arkansas. He first came to Delaware in 1983 to assist with the wetland studies for the siting of Route 1 as a consultant to DeIDOT.

From 1985 to 1990, Holmes worked as an Environmental Scientist in the Wetlands Section of the Division of Water. His interest in bats earned him the nickname “Batman” and he regularly gave talks at schools and state parks.

Holmes left DNREC in 1990, and for the next 20 years worked as an environment consultant developing his own business in the Cincinnati area. Holmes rejoined DNREC in 2011 as manager of the Wetlands and Subaqueous Lands Section in the Division of Water before becoming the Division



Director in the fall of 2014.

Virgil lives on a beautiful farm east of Route 9 with Jennifer, who until recently was the Education Coordinator at the St. Jones Reserve. Jennifer now teaches 8th and 10th grades at Calvary Christian Academy. Virgil and Jennifer are very active in their church and enjoy studying the relationship between God and science. For more information on the Division of Water, please visit:

<http://www.dnrec.delaware.gov/wr/Pages/Default.aspx>

Article by V. Holmes, DW, and C. Wirtz, WHS

New Energy Code Regulations

Delaware passes regulations to increase energy efficiency in buildings.



Renovation of the historic Leipsic Town Hall building.

Unlike automobiles, appliances, or consumer electronics, buildings constructed today will still have an impact on U.S. energy use 50 to 100 years from now—if not longer. Building energy codes improve the energy efficiency of these long-term investments by setting minimum requirements for new and renovated buildings.

In addition to lowering energy bills, energy codes reduce the demand for new energy generation capacity, thereby limiting air pollution and greenhouse gas emissions. Advancing these codes over time to make our building stock more energy efficient is one of the most cost-effective and impactful strategies for decreasing energy use in buildings, and, in turn, the country.

This year, Delaware updated their building energy codes statewide by adopting the 2012 International Energy Conservation Code (IECC). Although officially adopted in May, the new code did not become enforceable until November 11, 2014. The delay was designed to allow time for education and training prior to enforcement of the new code requirements.

The Division of Energy & Climate and the Homebuilder's Association of Delaware plan to offer additional educational workshops and trainings on the changes from the 2009 to 2012 code. The Delaware Energy Code Regulations with amendments can be found at:

<http://regulations.delaware.gov/register/may2014/final/17%20DE%20Reg%201086%2005-01-14.htm>

For more information on Delaware energy codes, please visit:

<http://www.dnrec.delaware.gov/energy/Pages/Building-Energy-Codes.aspx>

Article by C. Nagyiski, DE&C



Diesel Emissions Reduction Act Partnership Continues

In 2012, when the USEPA allocated additional funding from the Diesel Emission Reduction Act (DERA II) to every state and territory in the union that applied, DNREC's Division of Air Quality (DAQ) could not pass up the opportunity to fund clean diesel projects statewide. The DAQ received over \$180,000!

The first project of the grant involved a private-public partnership with Delaware Bay Launch Services Inc. (DBLS) to replace two diesel propulsion engines on the *Big Stone 5*, a launch vessel operating primarily in the Delaware Bay and along Delaware waters and ports (see photo right).

DBLS services port facilities in five counties: one in Delaware (New Castle County), two in Pennsylvania (Philadelphia and Delaware Counties), and two in New Jersey (Camden and Gloucester Counties). DERA II funds were used to purchase two new propulsion engines on the *Big Stone 5*.

Shipping traffic on the Delaware River and the trucking and rail operations needed to move goods from the ports are annually responsible for hundreds of tons of diesel emissions that have direct impact on the millions of people who live in the region. The port communities affected by this project are situated in the heart of the densely populated Mid-Atlantic States. Home to 5.8 million people, the Philadelphia-Camden-Wilmington Metropolitan Statistical Area (MSA) is the fifth-largest metropolitan area in the United States and is located within a four-hour drive of 40% of the nation's population.

The second grant project involved air quality public education using a van that acts as both a mobile air quality monitoring unit and a trav-



One of the two new propulsion engines is hoisted overhead for installation on the *Big Stone 5* launch vessel.

eling public outreach unit. DAQ needed a method of providing the citizens of Delaware with the most accurate and time-sensitive air quality data in areas where no permanent air monitoring station could be placed. Funding was used and to "wrap" the Moveable Monitoring Platform (MMP) van with the DAQ logo and air quality message, and purchase a computer and monitor for the MMP.

The MMP is designed with state-of-the-art instrumentation to monitor criteria pollutants (ozone, sulfur dioxide, carbon dioxide, nitrogen dioxide, particulate matter), select air toxics and meteorological data and will enhance the DAQ monitoring efforts in response to public concerns. For more information, please visit: <http://www.dnrec.delaware.gov/Air/Pages/MAMP.aspx>

Both projects have significant health benefits in reducing air pollution. In total, the emission reductions are: 130 tons of oxides of nitrogen, 5.75 tons of particulate matter, 3 tons of hydrocarbon, and 17.5 tons of carbon monoxide. All the reductions achieved certainly add up to cleaner air in Delaware!

Photos and article by D. Cuccinello, DAQ

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www.dnrec.delaware.gov



Division of Air Quality handles the majority of air issues in Delaware including: monitors and regulates all emissions to the air; issues "permits to construct" and "permits to operate" to air contaminant sources; maintains emission inventories from business and industry; develops the State Implementation Plan as required by the Clean Air Act; adopts new regulations and enforces existing regulations and permits; and inspects asbestos removal sites.

Division of Energy and Climate's mission is to serve the people of Delaware by reducing the adverse impacts of energy use on our environment, health, and economy. We educate, lead by example, and build partnerships to increase energy efficiency and renewable energy, promote sustainable growth, and prepare for a changing climate.

Division of Waste and Hazardous Substances plans for and responds to, environmental incidents; regulates the handling, transfer, storage and disposal of solid, infectious and hazardous waste; manages the recycling program in Delaware; regulates above and underground storage tanks and boilers; oversees the remediation of sites that have been contaminated by hazardous substances and chemicals; and implements Delaware's Brownfields Development Program.

Division of Water manages and protects water resources through various programs by providing technical assistance, laboratory services, regulatory guidance and implementation, and educational services; and performing applied research.

EASY REFERENCE PHONE NUMBERS

24-Hour Report and Spill Notification Line - 1-800-662-8802

Aboveground Storage Tanks - 302-395-2500
Air Quality - New Castle Office - 302-323-4542
Air Quality - Kent & Sussex - 302-739-9402
Asbestos New Castle - 302-323-4542
Asbestos Kent & Sussex - 302-739-9402
Biosolids Permits - 302-739-9946
Boiler Safety - 302-744-2735
Brownfields - 302-395-2600
Delaware Estuary Program - 302-739-9283 (Delaware Coastal Management Program)
Division of Air Quality Director's Office - 302-739-9402
Division of Energy and Climate Office - 302-735-3480
Division of Waste and Hazardous Substances Director's Office - 302-739-9400
Division of Water Information - 302-739-9950
Dock/Dredging/Bulkheads/Rip-Rap/Wetlands & Subaqueous Lands - 302-739-9943
Emergency Prevention and Response - 302-739-9404
Environmental Crimes Unit - 302-739-9401 or 1-800-662-8802
Environmental Laboratory - 302-739-9942
Hazardous Waste - 302-739-9403
Industrial Stormwater Permits - 302-739-9946
Loans & Grants for Wastewater and Septics (Financial Assistance Branch) - 302-739-9941
Medical Waste - 302-739-9403
Non-Hazardous Liquid Waste Transporters - 302-739-9948
On-site Wastewater Licensing Program - 302-739-9948
Open Burning - 302-739-9402
Outreach Ombudsman - 302-395-2600
Recycling - 302-739-9403
Septic System Permits - Large Systems (Community & I/A) State-wide - 302-739-9948
Septic System Permits - Small Systems for Kent & New Castle Counties - 302-739-9947
Septic System Permits - Small Systems for Sussex County & Holding Tank Compliance Program - 302-856-4561
Site Investigation & Restoration Section (Superfund/Brownfields) - 302-395-2600
Solid Waste - 302-739-9403
Source Water Protection - 302-739-9945
Surface Water Discharge Permits (NPDES) - 302-739-9946
Underground Injection Control & Spray Irrigation - 302-739-9948
Underground Storage Tanks - 302-395-2500
Wastewater Collection, Conveyance and/or Treatment Facility Construction Permits - 302-739-9946
Wastewater Treatment Facility Operators - 302-739-9946
Water Allocation Permits - 302-739-9945
Water Testing - Drinking Water (Division of Public Health) - 302-741-8630
Water Supply - 302-739-9945
Well Driller's License - 302-739-9944
Well Permits & Licensing - 302-739-9944
Wells - 302-739-9945
Wetlands and Subaqueous Lands Section - 302-739-9943