



Environmental Protection Matters

DNREC Office of Environmental Protection

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Volume 1

May 2016

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EPRS—Ready to Respond

EMERGENCY — HAZARDOUS SUBSTANCE RELEASE!

If you hear those words in Delaware, you can rest assured that DNREC's Division of Waste and Hazardous Substances-Emergency Prevention and Response Section (EPRS) is involved and ready to respond.

Thankfully, the EPRS includes a rapid, comprehensive, 24/7, state-wide response unit for emergency and non-emergency, petroleum and hazardous substance incidents for the protection of human health, safety and the environment.

The EPRS is responsible for all response activities related to hazardous materials (hazmat) incidents — from fuel oil spills at residential properties to hazmat spills on our roadways, as well as rendering safe methamphetamine (meth) waste at clandestine laboratories.

But that's not all, the EPRS also includes working with facilities in Delaware to ensure proper planning and accurate reporting of hazardous chemicals to **prevent** hazmat emergencies.

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Emergency Responders, Master Corporal Matt Chamberlain and On-Scene Coordinator Matt Higgins, offload a leaking tanker truck on I-95 last September.



Photo: J. Bethard, EPRS

EPRS—Ready to Respond *Continued...*

Most importantly, the EPRS works very closely with the facilities that have extremely hazardous substances to make sure they have the proper control and operations plans in place to prevent extremely hazardous incidents from even occurring. This kind of coverage requires three hard-working programs:

- ◆ **Accidental Release Prevention,**
- ◆ **Emergency Planning and Community Right-to-Know, and**
- ◆ **Emergency Response.**

The Accidental Release Prevention (ARP) Program provides protection for the lives and health of the citizens of Delaware by ensuring that companies with extremely hazardous substances have proper Risk Management Plans and operations in place to prevent incidents.

The Emergency Planning & Community Right-to-Know Act (EPCRA) Program requires the reporting of production, storage, and uses of hazardous chemicals and releases of these hazardous chemicals. Please see article on p. 6 for more information on the EPCRA Program.

The Emergency Response Program includes the Emergency Response Team (ERT) of highly trained staff that respond 24/7 to statewide incidents ranging from petroleum and hazardous substance spills to major events including possible weapons of mass destruction.

The ERT members have extensive training to properly address clandestine labs that make 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 anthrax scares to transport-related accidents including railcars containing crude oil, chlorine or styrene.

The ERT also has developed specialized expertise making them the go-to-folks for many other hazardous operations and activities including helicopter to tanker-ship deck training for potential hazmat

releases in the Delaware Bay and specialized drilling for overturned tankers to help control vapors and offload contents.

In addition, the program coordinates responses with local fire departments and other local, state, and federal departments and agencies. Typical incidents include:

- ◆ Land, Water and Air Hazardous Releases
- ◆ Petroleum Spills, including:
 - Motor Vehicle Fuels
 - Residential Heating Oil/Propane
- ◆ Clandestine Drug Labs
- ◆ Biological (White Powder) Incidents
- ◆ Radiological (Non-fixed Facility Incidents)
- ◆ Pollen, Mold, Fish Kills, Odors, Algae and Bacterial Blooms

Over the past year, three incident trends are apparent: 60% involve the ERT responding without assistance from other departments or agencies; 50% are petroleum-related releases; and 50% are located in New Castle County.

The dedicated and highly-trained ERT includes four full-time on-scene coordinators, who work with natural resource police from DNREC's Environmental Crimes Unit, and additional supplemental volunteer environmental staff from within DNREC, to form the critical hazmat and weapons of mass destruction response component of Delaware's State Emergency Response Team (SERT). For more information on DNREC's EPRS, ERT and the SERT, please visit:

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

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

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

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

DNREC/SERC 9th Annual Hazardous Materials Training Workshop

The ERT must respond to accidents and emergencies at a moment's notice, which takes extensive training and coordination with other members of the State Emergency Response Commission's (SERC's) State Emergency Response Team. Members include DNREC, 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 Delaware Emergency Management Agency (DEMA).

DNREC and SERC recently held their 9th Annual State of Delaware Hazardous Materials Training Workshop, which was hosted by the Delaware State Fire School. SERC authorized the workshop for local, state and industrial emergency personnel to ensure that the hazmat responders are trained to the highest levels.

By conducting the training locally, more respond-

ers could be trained and teambuilding skills could be developed, creating a successful response when needed in an emergency.

The hazmat workshop covered topics such as hospital decontamination, air monitoring, anhydrous ammonia releases, US DOT hazmat transport requirements, clandestine drug labs, chemical suicides, explosives, chlorine emergencies and Chemical/Biological Response. For more information on the DNREC's ERT and the SERC, please visit:

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

Environmental Emergency?

Call 1-800-662-8802, or #DNR (#367) on the Verizon Cell Phone Network

Article by M. Dolan, EPRS and C. Wirtz, WHS

NH₃ Anhydrous Ammonia live release leak control field evolution was conducted at the hazmat workshop with totally encapsulating chemical protective clothing.



Photo: K. O'Malley, Delaware State Fire School

Green Infrastructure: Natural Solutions to Environmental Challenges

Delaware's population growth brings positive additions to the first state's economy and vibrant communities. But increasing population growth can also mean increased stress to the environment, from impervious surfaces like parking lots that contribute to stormwater challenges, to more vehicles on the road that affect air quality.



Tidal wetlands: Tidal wetlands are an example of landscape scale green infrastructure. They provide vital buffer zones to protect communities from storm surges and rising tides, and are full of unique and diverse species.

Photo: DNREC – Watershed Monitoring and Assessment Program

Green infrastructure is a valuable tool that can help balance the environmental challenges of developing areas—like air pollution, flooding, erosion, and water quality degradation—with plants, soils, and natural processes that keep people and the environment healthy.

DNREC's Division of Energy & Climate has recently released the Green Infrastructure Primer, an introductory publication compiled with the help of contributors across DNREC that provides information and resources on green infrastructure at small, site-specific scales and larger landscape scales.

Green infrastructure projects—such as rain gardens, green roofs, living shorelines, and others—take a nature-based approach that combines engineering and nature's own systems to address environmental challenges. Planted alongside homes, businesses, and roadways, native plants

and soils filter pollutants out of water and air, and absorb rain and stormwater to reduce flooding and runoff after storms.

Along waterways, green infrastructure projects prevent erosion as plants lock their roots into the soil. Plants also absorb nutrients that would otherwise be carried off the land into waterways. In addition, water filters down through green infrastructure like rain gardens and vegetated swales, replenishing stores of groundwater.

These systems provide economic and health benefits to residential areas. They add aesthetic value to storefronts and public spaces, protect infrastructure from storm damage, and reduce public health costs by contributing to a cleaner environment. As climate change threatens to exacerbate flooding and compromise Delaware's natural resources, green infrastructure is also an important tool in climate resiliency.

At the landscape scale, green infrastructure includes large ecosystems like forests and wetlands that act as carbon-retaining sinks, soak up water and provide a flooding barrier, as well as offer recreational spaces and other natural services. The areas also provide habitats for all types of native species.

Delawareans can build green infrastructure outside their homes and businesses with guidance from the Green Infrastructure Primer, and the many additional resources it provides. Delawareans can also support landscape scale green infrastructure by advocating for the protection of forests, wetlands, shorelines and floodplains. Through strategic plant and soil selection, placement, and protection, green infrastructure maximizes on services that nature already provides. More information and a full digital copy of the Green Infrastructure Primer is available at:

de.gov/greeninfrastructure

Article by C. Fitzgerald, DEC

2015 MLK NCore Station Upgrade

Monumental maintenance challenges, an aging shelter and ever-expanding USEPA requirements prompted an extensive upgrade of the Division of Air Quality's (DAQ's) air quality monitoring station on Martin Luther King Jr. (MLK) Blvd. in Wilmington, Delaware.

The USEPA is requiring that DAQ run a Photochemical Assessment Monitoring Station (PAMS) at the MLK site beginning in 2017. This is a research-style application in which ozone precursors will be collected and analyzed to better understand atmospheric ozone formation. However, there just was not enough room in the original shelter for the required PAMS equipment.

In addition to equipment changes, DAQ wanted space to maintain the equipment, and have room to accommodate both USEPA and internal auditing equipment, as well as conduct station demonstrations. The larger station design would also include a standing workbench.

So DAQ's Ted Allen and Keith Hoffman began updating the National Core (NCore) Station back in 2015, under the careful direction of Charles Sarnoski, the Ambient Monitoring Group Program Manager. DAQ first started dismantling the old station, taking the equipment offline, and moving the old station out of the way. The equipment was stored inside the old station as the site was prepared for the arrival of the new station.

The new station was delivered by flatbed truck in October 2015 using a crane to lift it from the truck over the fence line into position against the existing deck. The equipment was installed and calibrated over the course of the next month. Full data collection resumed by mid-November 2015, and the MLK NCore Station was back in business, ready for the USEPA's new PAMS requirements in 2017! For more information on the MLK NCore Station, visit:

<http://www.dnrec.delaware.gov/Air/Pages/Air-Quality-Monitoring-Homepage.aspx>

Photos: Keith Hoffman, DAQ/Article: J. Martini, DAQ



The project began in October 2015. DAQ first dismantled the old MLK NCore Station shown here.



A crane was used to move the old station. The air quality analyzers were removed for protection as the old station was relocated to the back of the lot.



After settling in place, power was restored to the deck equipment and the new MLK NCore Station.

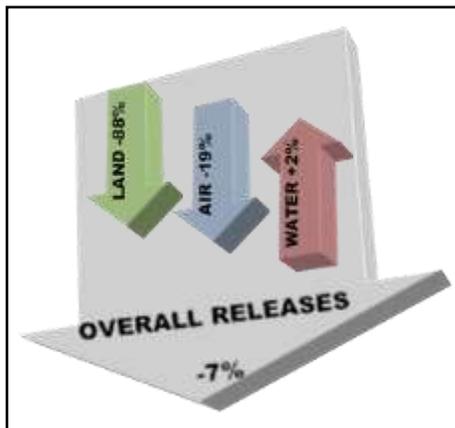
The TRI Report

The annual Toxics Release Inventory (TRI) data report from Delaware's industrial facilities shows the state continuing to make remarkable progress in reducing toxic releases to the environment. The TRI report is compiled by DNREC's Emergency Prevention and Response Section's Emergency Planning and Community Right-to-Know Act (EPCRA) Program each year, following the facility reporting year.

The Toxics Release Inventory (TRI) is a publicly available data set containing information reported annually since 1987 for toxic chemicals manufactured, processed, or otherwise used by certain facilities in Delaware and throughout the United States.

TRI was established in 1987 under Title III, Section 313, of the Federal Superfund Amendments and Reauthorization Act (SARA 313) to provide information to the public about the presence and release of toxic chemicals in their communities. Title III is also known as the Emergency Planning and Community Right-to-Know Act (EPCRA). EPCRA requires the reporting of production, storage and uses of hazardous chemicals, as well as the releases of these hazardous chemicals.

TRI data from 2014 – the most recent year for which statistics are available – shows a significant decrease in onsite releases to both land and air, with a slight increase in onsite releases to water, all as compared to 2013 figures. Total onsite releases were down 7% for 2014, with releases to land down 88%, air down 19%, and releases to water up 2%.



The reductions reflect a continued downward trend in toxic releases over the last 17 years – since 1998, when the reporting requirements were expanded to include a larger list of reporting facilities.

The reporting of nitrate compounds released to water again had a major impact on the overall onsite releases, accounting for 78% (2.9 million pounds) of the total onsite releases. Releases for nitrate compounds were up by 61,000 pounds compared to 2013. The major changes impacting these reductions are covered in the Delaware TRI summary and in greater detail in the report.

Manufacturing and industrial facilities in Delaware continue to demonstrate that they can keep productivity high and minimize or reduce releases to the environment. Enhanced technology, evolving best practices, the transparency of the TRI data, regulatory requirements and the public's expectation for cleaner processes have all contributed to the positive trends seen since the inception of TRI reporting.

Releases to air, land and water in Delaware are permitted by DNREC under rigorous environmental standards at both the national and state level. Permits granted by the Department allow for limited discharge of pollutants within these standards that have been established for minimizing impacts to the environment and protecting public health.

DNREC's EPCRA Program continues to work with facilities and stakeholders in Delaware to support this trend. For more information, please see the TRI data, the 2014 TRI data summary, and the full TRI 2014 report available at:

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

DNREC's ERT by the Numbers



DNREC's Emergency Response Team (ERT) is on-call 24/7, responding to hazardous substance releases that could impact public health and/or the environment.

In 2015, the ERT:

- ◆ Responded to 392 incidents. This included transportation accidents (89), residential oil spills (61), abandoned drums and containers (31) and oil sheens on waterways (31).
- ◆ Assisted the State Police and other police departments by rendering safe chemicals

and disposal of waste from meth labs.

- ◆ 50% of the responses were in New Castle, 25% each in Kent and Sussex.
- ◆ 61% of the responses were related to a release of petroleum, 39% were related to releases of other chemicals.

For more information on the ERT, please visit: <http://www.dnrec.delaware.gov/dwhs/EPR/Pages/RespGroup.aspx>

1-800-662-8802

or #DNR (#367) on the Verizon Cell Phone

Did You Know?

University of Delaware students are **working on a project** for the Division of Air Quality (DAQ). They are developing surveys to gauge customer satisfaction with the multiple categories of services that DAQ provides.

DAQ is committed to working with citizens to continuously optimize Delaware's air quality and protect public health, welfare, and the environment. DAQ is encouraging everyone to participate with an initial "opt-in" request to ensure that DAQ is meeting the air quality needs of citizens across the state.

If you opt-in at the link below, you will receive the student-designed surveys by email in the future, which will allow DAQ to analyze its performance over time. You can access the opt-in list by clicking:

https://survey.co1.qualtrics.com/jfe/form/SV_1RGZGUYt8fSuqkB

OPT-IN TODAY!

Article by D. Minor, DAQ

The Water Resources Association of the Delaware River Basin presented their Government Award to the DNREC Mirror Lake Project at their 34th Annual Recognition Dinner this month. DNREC Secretary David Small and the three DNREC staff behind the WATAR Program and the Mirror Lake project—Todd Keyser, Rick Greene and John Cargill—were on hand to accept the award.

Dover's Mirror Lake was contaminated with PCBs that would have taken over 50 years to remediate by natural means.

By applying an activated carbon product called SediMite®™, the team was able to measure a 60%

reduction in total PCBs in resident fish the first year! For more information, please visit:

<http://www.dnrec.delaware.gov/dwhs/Info/E-News/Documents/NewsletterDec2013finalPDF.pdf>



From left to right, Todd Keyser, Rick Greene and John Cargill at the award event.

Article/photo by M. Crofts, WHS

DELAWARE
DEPARTMENT OF
NATURAL
RESOURCES AND
ENVIRONMENTAL
CONTROL

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web!**

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. The division educates, leads by example, and builds partnerships to increase energy efficiency and renewable energy, promotes sustainable growth, and helps 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 by 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 - 302-395-2500
Brownfields - 302-395-2600
Community Ombudsman - 302-739-9040
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
Hazardous Chemical and Toxic Release Inventories - 302-739-9405
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 / On-site Wastewater Licensing Program - 302-739-9948
Office of Community Services - 302-739-9959
Open Burning - 302-739-9402
Outreach Ombudsman - 302-395-2600
Recycling - 302-739-9403
Septic System Permits-Large Systems (Community & I/A) Statewide - 302-739-9948
Septic System Permits-Small Systems for Kent & New Castle Counties - 302-739-9947
Septic System Permits-Small Systems for Sussex & Holding Tank Compli. Program - 302-856-4561
Site Investigation & Restoration Section (Superfund/Brownfields) - 302-395-2600
Small Business Ombudsman - 302-739-9909
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 - 302-739-9944
Wetlands and Subaqueous Lands Section - 302-739-9943