

Conservation Committee Report

Volume 9 Issue 12

By Jack Walters, ACSL Conservation Chair

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The Conservation Pledge

I give my pledge as an
American to save
and faithfully defend from
waste,
the natural resources of my
country;
the soil, the water, the air,
the minerals, the plant life
and the wildlife.

This is my Pledge!

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GOVERNOR RENDELL PLEASED FEDERAL ENERGY DEPARTMENT WILL RECONSIDER TRANSMISSION CORRIDOR DESIGNATION

Governor Edward G. Rendell today said he was pleased with the U.S. Department of Energy's decision to rehear the case against its decision to designate 52 of Pennsylvania's 67 counties as part of the National Interest Electric Transmission Corridor.

"The federal government has heard our voices of displeasure and granted additional time to reconsider this decision, which we believe to be ill-conceived," said Governor Rendell. "I hope Secretary Bodman uses this time to thoroughly consider our arguments and evaluate the considerable evidence that shows this designation does a great disservice to the people of Pennsylvania without sufficient benefits.

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DOE-Funded "Deep Trek" Project Yields Rugged New Electronic Chips

Chips Stand Up to High Temperatures and Pressures to Make Deepwell Gas Recovery Safer, More Economical

Innovative new electronic components developed with support from the U.S. Department of Energy's (DOE) Oil and Natural Gas Program could revolutionize the process of recovering natural gas trapped miles below the Earth's surface. The new components - four small electronic chips that can withstand the harsh conditions found in deepwell drilling for natural gas - were developed by Honeywell International with support from DOE's Deep Trek program.

Historically, most of America's natural gas comes from reservoirs located roughly one or two miles underground, but domestic production from

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RECONSIDER TRANSMISSION CORRIDOR DESIGNATION

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“Ultimately, we’re committed to continuing the fight against this designation. Our people should not have to accept that these transmission lines will be on our soil, depreciate our property values, but may not benefit our consumers. And we will not standby and watch while our efforts to build a new, clean energy economy are undermined by electricity shipped across our state from dirtier fossil-fueled plants to the south and west of us.”

On Nov. 11, the Department of Environmental Protection, at the Governor’s direction, filed an application requesting a rehearing of the Department of Energy’s (DOE) Oct. 5 order designating the Mid-Atlantic Area National Corridor. The state cited the following reasons for its request: · The Federal Powers Act requires that any corridor be narrowly drawn and limited only to those areas that are experiencing electric energy transmission constraints or congestion. In many parts of the 52 Pennsylvania counties affected, that is not the case. · The Department of Energy, or DOE, failed to consider any alternatives prior to designating the corridor. · DOE never prepared an environmental impact statement prior to making its decision as required in the National Environmental Policy Act. · The federal government neglected to consult with the commonwealth in a timely fashion while studying transmission congestion, and failed to consider the state’s comments. · The DOE abused its discretion in choosing to designate the corridor. Governor Rendell previously had filed comments in opposition to the plan on July 6. That filing granted Pennsylvania “party status” in the case, allowing the application for reconsideration.

To view a map of the Mid-Atlantic Area National Corridor, visit nietc.anl.gov.

Source: PA DEP

Project Yields Rugged New Electronic Chips

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these wells has been declining while America's dependence on natural gas is growing. Projections show America's need for gas imports is increasing by 1.5 percent each year while an estimated 29 percent of our country's natural gas reserves remain locked in very deep reservoirs where conditions make them uneconomical to be recovered with current technology.

Drilling very deep wells, three miles and more underground, poses huge obstacles for the drilling process because of the extremely high temperatures, very hard and abrasive rock strata, intense pressure, and caustic and corrosive environment - all of which can quickly wear out and disable more traditional drilling components. Without pressure- and heat-resistant "smart" drilling components, which can keep operators continuously informed about what is happening below the surface, drilling becomes almost blind, slow, very costly, and sometimes off-target.

The Honeywell components will aid in reaching these deep reserves, which are estimated to contain between 169 trillion and 187 trillion cubic feet of natural gas. Using silicon-on-insulator technology capable of withstanding the very high temperatures encountered in deep wells, these critical components will serve as building blocks for downhole sensors and smart tools required to make deephole drilling economical and safe.

The new Honeywell components, all of them smaller than a postage stamp, are designed to withstand the extreme heat and pressure found in drilling deep wells:

EEPROM, an electrically erasable, programmable, read-only memory chip, can store more than 32,000 eight-bit data words. It can be programmed, as well as read, at high temperatures and retain data for more than 1,000 hours at 225 degrees Celsius (437 degrees Fahrenheit). Having a non-volatile memory, the EEPROM can retain information when the power is off.

FPGA, a field-programmable gate array equipped with more than 3 million transistors, features programmable logic functions and interconnections, including the equivalent of 32,000 user-configurable logic gates. This flexible chip can be reprogrammed in the field if there is a change in purpose for a particular electronic circuit. The FPGA receives instructions from the EEPROM.

OpAmp amplifies and conditions low-level signals received from downhole sensors. The OpAmp can operate at temperatures from -50 degrees Celsius to 375 degrees Celsius (-58 degrees Fahrenheit to 707 degrees Fahrenheit). In testing, this precision amplifier performed well at 300 degrees Celsius for more than 1,000 hours.

ADC, an 18-bit analog-to-digital converter, has a 16-fold improvement of resolution over existing technology. The ADC converts continuously variable voltage to digital data words, translating voltage to a binary digital number.

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Project Yields Rugged New Electronic Chips**(continued)**

Honeywell is now working with DOE on a follow-on project to combine the FPGA and EEPROM chips into a rugged, reconfigurable, and flexible ceramic processor package that can be customized to meet individual tool requirements and help drillers tap America's deep gas reservoirs.

DOE launched the Deep Trek program in 2001 to develop innovative and tough deepwell technologies such as smart communication tools, pipe systems, novel drill bits, and drilling fluids. These advanced technologies have to withstand the extreme pressures (more than 15,000 pounds per square inch) and temperatures (over 205 degrees Celsius or 400 degrees Fahrenheit) that are typically encountered in deephole drilling.

The National Energy Technology Laboratory manages the Deep Trek program for DOE's Office of Fossil Energy. To date, 19 Deep Trek research and development agreements have been awarded at a total cost of more than \$36 million, which includes \$12 million in contributions from research partners.

Source: U.S. DOE

DEP APPROVES GAS TO ENERGY PROJECT FOR BERKS COUNTY LANDFILL

The Department of Environmental Protection has approved an air quality application for a plant at the Pioneer Crossing Landfill in Exeter Township, Berks County, that will convert methane gas to 50 million kilowatt hours of energy per year.

G.A.S. Access Pioneer Crossing Energy LLC plans to construct a 6.4-megawatt power generating facility with four landfill-gas-fired engine generator sets. The engines will be enclosed in a building on the landfill property.

DEP Southcentral Regional Director Rachel Diamond said capturing methane gas from landfills is a cost-effective way of generating electricity and reducing the impact the gas has on the environment.

“Landfill gas projects turn a potentially serious environmental threat – methane emissions that contribute to global warming – into a reliable source of energy,” said Diamond, noting that landfill methane is produced from decaying garbage and is typically burned by using large flares.

Pennsylvania is home to 24 operational gas-to-energy projects. DEP estimates these projects generate more than 100 megawatts of electricity, which is enough to power more than 250,000 homes for a year. Additionally, the projects generate approximately 7 billion standard cubic feet of landfill gas annually for industrial/commercial uses.

For more information, visit www.depweb.state.pa.us, keyword: Landfill Methane Outreach Partnership.

Source: PA DEP

**GOVERNOR RENDELL AWARDS \$39.4 MILLION FOR RECREATION,
CONSERVATION PROJECTS**

Pennsylvania residents will benefit from a \$39.4 million investment in land protection, conservation and recreation projects designed to help revitalize communities and protect natural resources, Governor Edward G. Rendell said today.

“This investment will help us preserve and enhance the tremendous opportunities we have in Pennsylvania to connect with the great outdoors,” Governor Rendell said of the 406 projects that will be funded. “These grants allow us to partner with communities so that they can expand and improve the wonderful assets that make the places we call home vibrant and attractive.”

Funding for the grants comes from Growing Greener II, a voter-approved, \$625 million bond issue, and Keystone '93, a DCNR fund generated from a portion of the realty transfer tax.

Statewide, the grants will fund a variety of projects, including conserving 4,129 acres of open space and 224 projects for the development or rehabilitation of recreation, park or conservation areas and facilities.

The grants include:

More than \$3 million for projects in the 12 counties in the north central region that make up the Pennsylvania Wilds, providing support for important park and trail infrastructure improvements that will enhance recreation opportunities for area residents and make communities in the region attractive places for economic investments by the private sector.

This includes \$466,450 in grants for projects in two heritage areas in the region – Lumber Heritage and PA Route 6;

- \$500,000 to the Sports and Exhibition Authority for the further development of Convention Center Riverfront Park in Pittsburgh to improve river access, and \$500,000 to the Urban Redevelopment Authority of Pittsburgh to continue South Shore Riverfront Park, including a stage and water feature;
- \$160,000 to the Cambria County Conservation and Recreation Authority for the Path of the Flood Trail in the Johnstown area;
- \$560,400 to the French and Pickering Creeks Conservation Trust for conservation easements on 37 acres of open space in Chester County;
- \$100,000 to Penn State for the rehabilitation of Shaver’s Creek Environmental Center in Huntingdon County;
- \$400,000 to White Township, Indiana County, to work with the J.S. Mack Foundation on the renovation of Mack Pool;

CONSERVATION PROJECTS

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- **\$661,000 to the Lancaster County Conservancy for the acquisition of 74-acres and a trail easement for the Conewago Rail Trail in Mount Joy Township;**
- **\$593,300 to the North Branch Land Trust for a conservation easement on 1,415 acres in Bear Creek Township, Luzerne County;**
- **\$121,000 to the Natural Lands Trust for the acquisition of about 28 acres west of St. Peters Road in North Coventry Township, Chester County, for open space protection; and**
- **\$500,000 to the City of Bethlehem for acquisition of 28-acres of abandoned railway for a pedestrian and bike trail.**

Growing Greener II funding is used to clean up rivers and streams; protect natural areas, open spaces and working farms; and support key programs to improve quality of life and revitalize communities across the commonwealth.

A complete list of grants by county is available at www.dcnr.state.pa.us and click on “Grants.”

Source: PA DCNR