

SPECIAL EDITION

ONE NATION... ONE NUMBER...

If 9-1-1 is the number you call to report emergencies, 8-1-1 is the number to call to prevent them. These were the words of U.S. Secretary of Transportation Mary E. Peters on May 1 on the National Mall during the groundbreaking ceremony that introduced the Nation to its new number to ‘call before digging’.

8-1-1 is a new tool established by companies, individuals, and organizations that make up the Common Ground Alliance (CGA). The CGA members and volunteers not only hold a stake in underground utilities, but also share responsibility in their protection and the safety of those who work on or near them during excavation activities.

The development of the 8-1-1 number was through a cause to help prevent widespread digging accidents by providing only one number to call to reach local One Call Centers nationwide when preparing to perform excavation jobs.



One Call Centers are local resources that contact appropriate utility companies to mark the approximate locations of their lines with paint or flags before a caller begins a digging project.

“Now that there is a simple number to call, any time, there is no excuse for putting lives at risk by striking a utility line,” said Secretary Peters.

Joining Secretary Peters on the Mall included representatives from the Associated General Contractors of America, John Deere Corporation, Travelers Companies, Inc., and Cox Communications. Each of these entities played an important role in assisting the CGA to establish and implement the new 811 number as a nationwide resource for excavators.

Communication between excavators and owners of underground facilities, including pipeline operators, are accomplished through one call centers and has proven to be a very important step in avoiding damages.

Today excavation damage continues to be a leading threat to the safety and efficiency of the Nation’s vital utilities,

Know what’s below.

**ALWAYS
CALL
BEFORE YOU
DIG**

pipelines included. Improperly conducted excavation costs the country millions of dollars, risks the health and safety of the public, utility workers and the environment and severely impacts economic prosperity.

CGA conducted market research of both homeowners and professional excavators to evaluate the rate of which one call centers were contacted before landscaping and home improvement projects. While professional excavators indicated a higher notification rate than homeowners, the “Every Project, Every Time” message needed to be reinforced to excavators. Finally, the research found that messages related to the safety of homeowners and excavators are the strongest and most compelling.

The need for a more convenient meth-

Continued on page 3



Transportation Secretary Mary Peters (center) with CGA President Bob Kipp (left) and CGA Chairman Paul Preketes (right).

From the Administrator...



PHMSA Administrator Barrett speaks at 811 Kickoff Congressional reception.

For years the Department of Transportation has been continuously challenged to improve the safety of underground pipelines, especially through the reduction of excavation damage. In the late 1990's, Congress gave the Research and Special Programs Administration, the Department's former agency with oversight over pipeline safety, one of the largest assignments it had ever taken on: determining the most effective damage prevention practices to put an end to, what was at the time, the number one cause of pipeline accidents.

The process involved utilizing an enterprise approach to reach consensus with over 160 industry and government professionals who volunteered their time to create the Common Ground Study in 1999, best practices to reduce underground facility damage, and eventually the Common Ground Alliance (CGA) in 2000. The work of this public/private partnership and their collaborative approach became the catalyst for all damage prevention efforts following the CGA's establishment.

Today we are continuing to experience difficulty in our collective efforts to protect underground facilities. Damages to underground utilities resulting from excavation related activities are on the rise nationwide.

The nation depends on these underground systems, including gas and oil pipelines, electric lines, telecommunications cables and other infrastructure to maintain our way of life. The introduction of "8-1-1" gives us a little added assistance in our efforts to deliver on this dependence by providing a new tool all can use to preserve safety and ensure service interruptions remain minimal.

We all know that damage by third parties is almost entirely preventable. Throughout its existence, the Common Ground Alliance has been at the forefront of stressing the importance of calling before digging and reminding all underground facility owners to correctly locate their utilities before excavation or construction activities commence. But there's still more to do. In researching the best ways to protect underground resources, we've come to learn we must work together to continuously find practices that will effectively enhance the safety of underground systems.

Whether we're government regulators or part of a specific utility industry, increasing our safety effectiveness is a huge task. Together, we must reinforce the need to proactively protect workers and underground utilities by confirming the accuracy of facility locations, using only qualified personnel for excavation activities, and utilizing safe excavation practices, including hand digging when necessary.

Over the years the CGA has done a great job in bringing all underground utility stakeholders together to protect our systems from external damages. 8-1-1 is another collective innovation and great advancement from the CGA and its members.

I would like to personally thank the CGA, all of its member sponsors, and launch partners of the 8-1-1 campaign for bringing the new number into existence.

As we move forward, the education and awareness of our ultimate customer, the American public, will prove to be our most valuable asset in the use of the new 8-1-1 number and our battle against third party damage. The public too must know the role they play in protecting themselves and im-

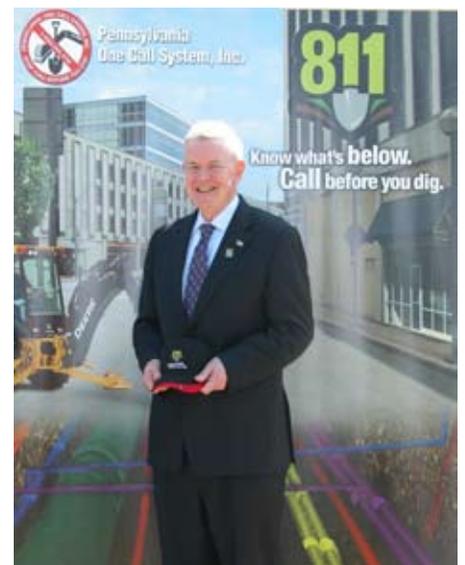
proving safety and efficiency within their communities.

PHMSA looks forward to a full-fledged nationwide implementation of the 3-digit number to increase the use of One-Call services and to minimize confusion over the appropriate number to call to report planned excavation within any state.

We are extremely gratified with the important advances that we, in partnership with the many other members, have brought about since the CGA's establishment. We've come a long way and the future looks even more promising now that 8-1-1 is a reality.

With communities increasingly expanding, newer ones are being built in areas where pipelines and other utilities previously existed out of harms way. Accompanying this growth and expansion are also newer utilities that are needed to connect people to people and their communities to vital resources.

The continued vigilance and efforts of each of you in preventing damage to underground infrastructures are critical to ensuring safe, clean, and reliable operation of the critical underground "lifelines" in our Nation's communities. Please know that we are counting on your continued dedication as we move forward.



PHMSA Administrator Barrett in front of Pennsylvania One Call display.

One Number *Continued from cover*

od of contacting a one call center has been highlighted by the CGA's analysis of damage reports submitted to its Damage Information Reporting Tool (DIRT). After analyzing 51,600 events from 45 states and one Canadian province, the most frequently reported root cause was "no notification made to the one call center."

"It is our hope, no, our expectation that the introduction of 811 will increase public awareness about the threats posed by careless digging, encourage safe excavation, and protect our nation's vast underground utility infrastructure," said Bob Kipp, CGA President.

Through the Pipeline Inspection, Protection, Enforcement and Safety Act, signed into law last year by President Bush, the Department and state agencies gain more resources and authority to enforce damage prevention laws. Damage prevention enforcement, including the use of the new 8-1-1 number, will be a key component to reducing underground facility failure due to excavation.

"The 8-1-1 number and Call Be-

fore You Dig public awareness program we are launching today are one important part of protecting our underground lines. Another is enforcement," added Secretary Peters. "I am putting those folks who cannot be bothered to dial three simple numbers on notice—you will face stiff penalties."

Many states such as Virginia and Minnesota have already introduced new laws that allow them to punish offenders who put lives at risk.

In February 2006, the CGA approved and completed its development of a logo and tagline to clearly brand 811 across the nation. The CGA tracks the organizations using the logo to create a full picture of the extent of the 811 campaign.

In addition to the new number, the 8-1-1 website (www.call811.com) serves as the centerpiece of the national campaign and is the one-stop information solution for CGA members and professional excavators. Logos, ad slicks, and promotional campaign material can be downloaded for free from the web-

site. Individual CGA member companies can incorporate 811 campaign materials into their outreach materials to further enhance the clarity of the "Call Before You Dig" message.

Did You Know?

In 1998, the U.S. Department of Transportation established the Common Ground Task Force which eventually became known as the Common Ground Alliance.

CATS Program

PHMSA's Community Assistance & Technical Services (CATS) Program was established in 2003. CATS managers are located in each PHMSA Pipeline Safety Regional Office and a CATS coordinator works in Headquarters.

The CATS Program is intended to enhance communication with pipeline safety stakeholders. Of the six CATS program areas, CATS managers spend the most time working on damage prevention. CATS managers serve on working committees of the Common Ground Alliance (CGA), encourage the development and expansion of CGA Regional Partnerships, and work with PHMSA's State pipeline safety partners to develop regulatory and statutory initiatives to further improve underground facility damage prevention.

CATS managers will work closely with pipeline operators to refine Recommended Practice 1162 style public awareness programs, including verifying that one-call messages are provided to all stakeholders and that 811 is prominently featured in communications to stakeholders.

Effective Damage Prevention Requires Public Awareness

Pipeline operators have implemented public awareness programs for many years. Pipeline safety regulations have included requirements for operators to communicate with excavators, emergency officials, and the general public.

In December 2005, the American Petroleum Institute (API) published Recommended Practice 1162 (RP 1162), Public Awareness Programs for Pipeline Operators.

Beginning in June 2006, pipeline operators were required to begin implementing RP 1162-style programs. RP 1162 recommends that underground facility damage prevention information

be included in pipeline safety communications to four stakeholder audiences: affected public, emergency officials, local public officials, and excavators. Each audience is provided with information about how and when to call a one-call center to request the marking of underground facilities.

All stakeholder audiences are provided information about how to recognize, respond to, and report pipeline emergencies. By also including damage prevention messages, PHMSA and the pipeline industry hope to reduce the number of pipeline emergencies caused by excavation damage.

Transmission Pipelines and Land Use Planning



The economic prosperity of our Nation, and the quality of our daily lives, depend heavily on an underground network of pipes and wires. Most people do not appreciate the intricacy of the buried infrastructure that provides electricity, communications, water, and fossil fuels to our society. Since buried facilities are not visible, they tend to attract attention only when something goes wrong. Excavation damage, or inappropriate land uses, may lead to a failure of the facilities. In the case of natural gas and hazardous liquid pipelines, the consequences of a failure can

be catastrophic, for both people and the environment.

PHMSA contracted with the Transportation Research Board (TRB) to study land use practices, zoning ordinances, and preservation of environmental resources with regard to pipeline rights-of-way and their maintenance. The TRB issued a special report titled *Transmission Pipelines and Land Use: A Risk-Informed Approach* (<http://trb.org/publications/sr/sr281.pdf>).

The recommendations from SR 281 include developing risk-informed land use guidance. This guidance needs to

address the range of appropriate land uses, structures, and human activities compatible with pipeline rights-of-way. Setbacks, and other measures that could be adopted to protect structures that are built and maintained near pipelines, also need to be considered. The guidance may be formatted as model local zoning ordinances, subdivision regulations, and planning policies and model state legislation that could be adopted for land uses near pipelines.

In the fall of 2007, PHMSA, in conjunction with other Federal agencies, will convene the Pipelines and Informed Planning Alliance (PIPA) to develop the land use guidance. In order to be effective, PIPA will require a wide variety of expertise. Required expertise includes planning and zoning, real estate, and pipeline operation & maintenance. PHMSA has invited over 30 organizations to participate in an effort to draw the necessary expertise into PIPA.

Learning From DIRT

The Damage Information Reporting Tool (DIRT) is a secure web application designed to collect and report underground facility damage information. The nine essential elements of an effective damage prevention program listed in the PIPES Act of 2006 include analysis of data to continually evaluate and improve program effectiveness. The CGA DIRT tool provides damage prevention stakeholders with a convenient method of storing and analyzing damage data. In addition to providing a repository for individual company data, all damages in DIRT are analyzed each year to understand and characterize damage prevention threats.

In December 2006, the CGA published the second volume of DIRT

Analysis and Recommendations based on damage data submitted by stakeholders in 2004 and 2005.

The conclusions included in the report are:

1. Damage prevention awareness programs still are necessary for the general public, professional excavators, and underground facility owners.
2. Education and training programs about excavating best practices should target professional contractors, underground facility owners, and government personnel who excavate.
3. Education and training programs about locating and marking best practices should targeted con-

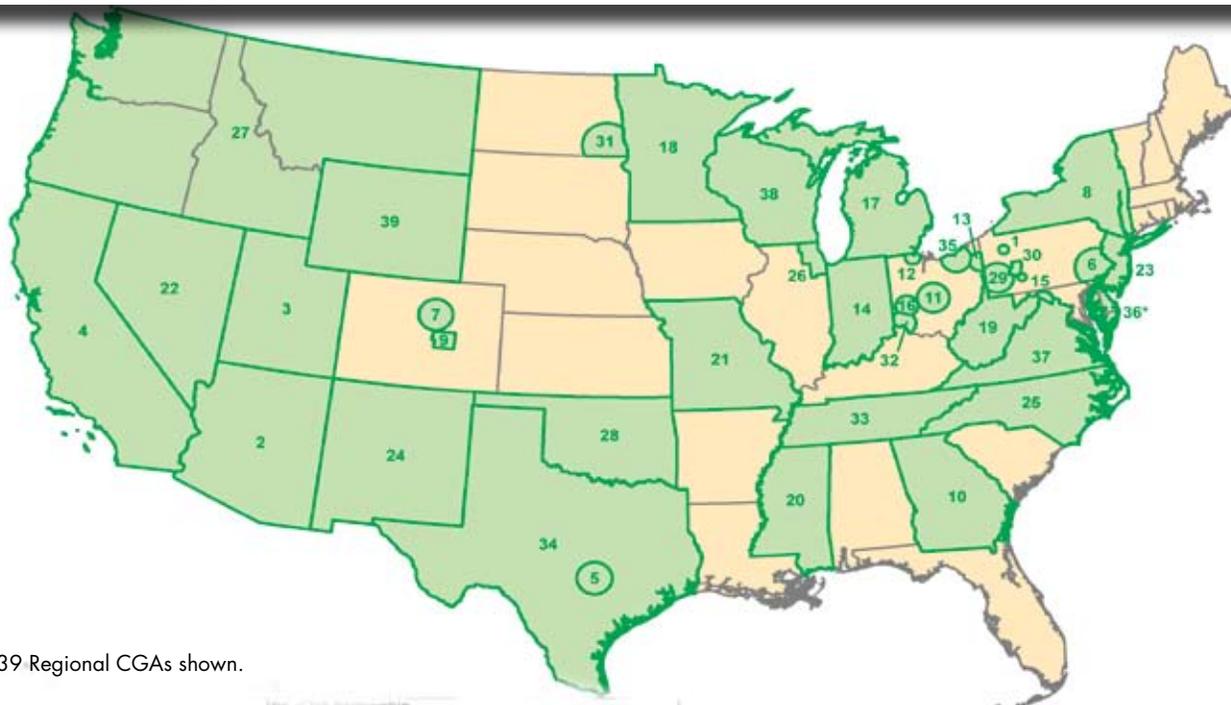
tract locators, underground facility owners, and government organization locators.

4. Root cause data show interesting relationships between data elements that should be considered during the development of awareness, training, and education programs.
5. Many stakeholders currently do not submit complete data.

In 2007, the CGA will continue to develop awareness, training, and education programs to address these conclusions. For additional details about DIRT, visit www.CGA-DIRT.com

Did You Know?

There are currently 47 regional partner committees located in North America to help the CGA promote damage prevention best practices. Forty-two* of these regional partners are located in the United States.



*Only 39 Regional CGAs shown.

Leveraging Pipeline Damage Prevention Technology Development

Excavation damage remains a significant threat by means of event frequency and consequence to life and property. Since 2002, the PHMSA Pipeline Safety R&D Program has jointly invested in eight research projects with the pipeline industry. PHMSA is investing in prevention technologies and best practices with over \$1.2 million, combined with over \$1.6 million of industry co-funding.

Prevention technologies of notable mention include the following:

- *Digital Mapping of Buried Pipelines with a Dual Array System*—Before you dig, this tool identifies obstacles and produces 3-D maps of underground utilities.
- *Differential Impedance Obstacle Detection Sensor (DIOD)*—While boring below ground, this tool detects obstacles in the drill path.

- *Infrasonic Frequency Seismic Sensor System for Preventing Third-party Damage to Gas Pipelines*—Early warning technology to detect potential third-party encroachment.

The following project descriptions provide more information on the PHMSA funded technologies:

Digital Mapping of Buried Pipelines with a Dual Array System

Witten Technologies, Inc. from Somerville, MA has recently commercialized and patented a noninvasive tool for detecting, mapping and inspecting steel and plastic pipelines from above ground. The tool produces a 3-D view of the underground by combining measurements from ultra-wideband radar and electromagnetic induction arrays with precise positioning and advanced image processing. The new tool can produce a

3-D underground image up to 20 times faster than previous tools. The dual array is also useful for mapping areas to detect below ground leaks.

Differential Impedance Obstacle Detection Sensor

Gas Technology Institute (GTI) from Des Plaines, IL, is developing a Differential Impedance Obstacle Detection Sensor (DIOD) for coupling with horizontal drill rigs to detect obstacles in the drill path. GTI is conducting a series of in-ground tests to demonstrate that the DIOD can detect obstacles of at least



Continued on page 6

Leveraging Pipeline Damage Prevention Technology Development

Continued from page 5

Differential Impedance Obstacle Detection Sensor *(continued)*

three different materials (plastic, ceramic, and metal) in at least three different soil compositions. Before completion GTI will validate that tool toughness is robust enough to withstand horizontal directional drilling conditions.

Infrasonic Frequency Seismic Sensor System for Preventing 3rd Party Damage to Gas Pipelines

Northeast Gas Association of New York has partnered with Physical Sciences Inc. (PSI) of Andover, MA, to develop an Infrasonic-Frequency Seismic Sensor System. The tool detects potential third-party encroachment, pinpoints their locations, identifies the equipment involved, and provides early warning to operator control rooms. The research will also provide a user plan of operation and interface needs.

PHMSA is bringing change through continued collaborative investments in prevention technology and by holding technology demonstrations so new industry tools reach intended users. For extra information visit

<http://primis.phmsa.dot.gov>



Excavation Damage Prevention Initiative

Keeping pace with the momentum established with the rollout of 8-1-1, the Nation's new number for preventing underground facility damage, CGA stakeholders are joining forces once again to execute an enterprise approach to increase state's awareness of damage prevention provisions included in the Pipeline Inspection, Protection, Enforcement and Safety (PIPES) Act of 2006.

The Excavation Damage Prevention Initiative (EDPI) will work to educate state legislators and commissioners about the importance of developing and enforcing legislation to assist in implementing PIPES Act provisions at the state level to further protect buried facilities. The EDPI will provide states with educational materials and assistance in learning the benefits of PIPES Act objectives for civil enforcement authority.

States already containing strong enforcement programs have seen reductions in damages to underground facilities by up to 50 percent. PHMSA is currently developing criteria to assist states in their efforts to implement the nine program elements for effective damage prevention and state excavation damage prevention programs. In addition, the agency is expected to spend approximately \$8 million this year on damage prevention measures, including efforts to help states improve enforcement of one-call requirements.

States may become eligible to receive grants from PHMSA to support damage prevention programs if they achieve, or make substantial progress in achieving, the nine program elements.

For individuals with questions or interested in becoming involved with EDPI please send an email to: EDPI@icemillerstrategies.com.



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